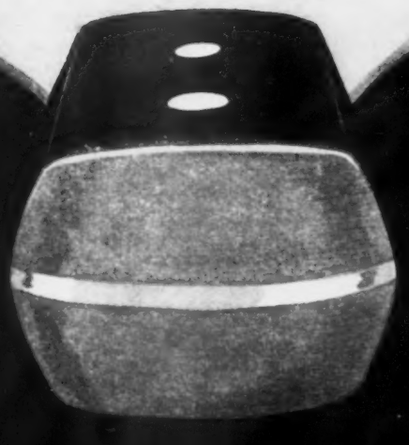
PRINTING EQUIPMENT *Engineer*

try-wide Technical Pu

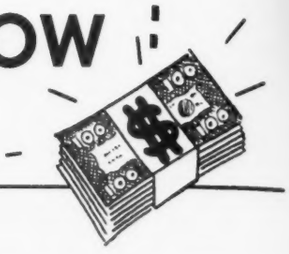


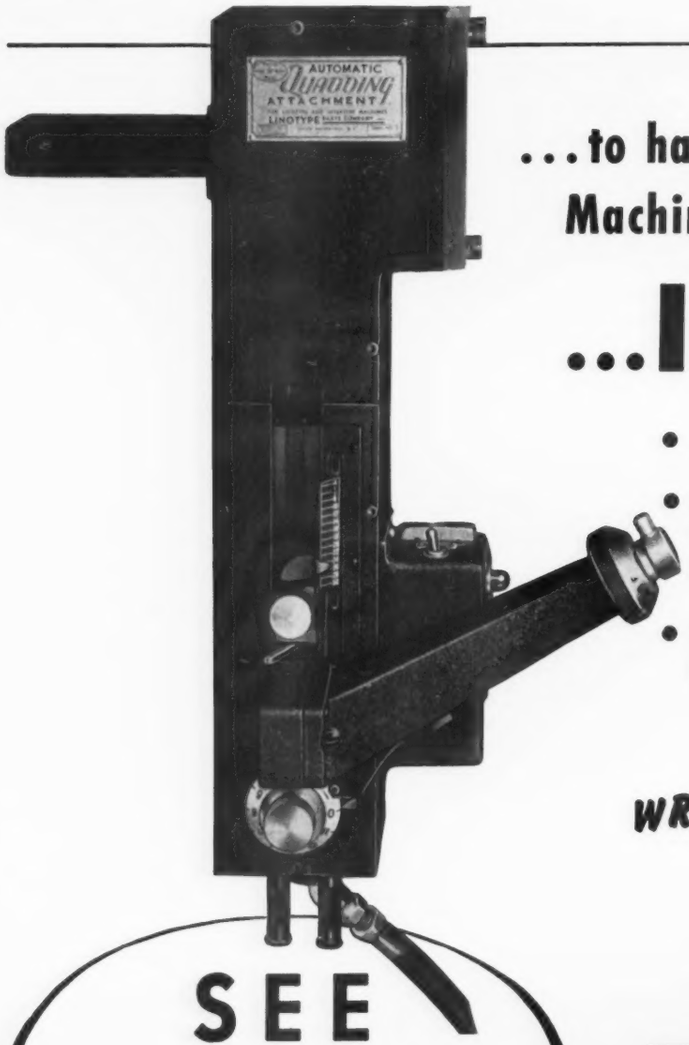
PLEASE ROUTE THIS COPY TO

Manager	Pressroom Foreman
Production Mgr.	Bindery Foreman
Plant Supt.	Mailing Foreman
Platemaking Foreman	Maintenance Supt.
Composing Foreman	Purchasing Agt.

For filing please return to

IT'S LIKE THROWING MONEY OUT OF THE WINDOW





...to have a Linotype or Intertype Machine *without* a STAR Quadder

...IF

- There is no quadder on it now
- And if it is a machine used at least 20% of the time on white space composition (ads, heads, classified, imprints, job work, etc.)
- Or if it has a quadder which is causing loss of production.

WRITE US FOR THE NEW STAR QUADDER FOLDER NOW!

SEE

the STAR Quadder with the sensational new Hydraulic Actuation

— Booth 57 —

ANPA Mechanical Conference.

PRECISION
TRADE ★ MARK

LINOTYPE PARTS COMPANY
INCORPORATED
Factory and Main Office
SOUTH HACKENSACK, N. J.
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It costs no more to use the best!...

ARROWHEAD BLACK

Flint Inks

Howard Flint Ink Co.

Printing and Lithographic Inks

HOUSTON • ATLANTA • DETROIT • CHICAGO • INDIANAPOLIS
CLEVELAND • LOS ANGELES • TULSA • NEW ORLEANS • DENVER

New Sta-Hi COLOR register machine makes bow at ANPA conference...

First public showing of Sta-Hi's latest equipment development, the new Sta-Hi Master Matcher, is being made during the Milwaukee ANPA Mechanical Conference.

The machine is a precision color comparator and registering machine in which mats, plates and proofs of color copy can be "matched" for perfect register, through an ingenious and finely sensitive optical projection system.

Designed primarily to be used in newspaper color work in conjunction with the Sta-Hi Master Trimmer, curved mat registering and trimming machine, the Master Matcher also has many other applications in the graphic arts field.

Conference delegates can see a small scale working model of the Master Matcher at Sta-Hi's exhibit at Booths 9 and 10 in Milwaukee Auditorium—or by making arrangements with a Sta-Hi representative at the exhibit, they can witness an actual demonstration of a production machine at the Milwaukee Journal, through whose courtesy an installation has been made in their stereotype department.

An illustrated descriptive folder on the new Sta-Hi Master Matcher is available for the asking. Write for your copy today!

STA-HI CORPORATION
Box 152 · Whittier · California

1928 STA-HI 1953 OUR SILVER ANNIVERSARY OF SERVICE TO AMERICAN NEWSPAPER PUBLISHING

STA-HI presents...

"the machinery to see in '53"

the NEW STA-HI MASTER MATCHER

COLOR MAT COMPARATOR AND REGISTERING MACHINE

OUR 25TH YEAR OF BUILDING PRECISION NEWSPAPER PRODUCTION MACHINERY

1928 STA-HI 1953

NEW! VANDERCOOK 22

"Economy Electric" Galley Proof Press

SPECIFICATIONS

Vandercook 22 "Economy Electric" Galley Proof Press

Bed Size — 10″ x 25½″ *Floor Space* — 1′11″ x 3′8″

Speed Adjustable to 20, 30, 40 or more proofs per minute

Here is the smaller galley proof press for which the industry has been waiting! It's the Vandercook 22 "Economy Electric"—an efficient companion to the famous Vandercook Safe Electric. This new high speed machine is economical in many ways; it is low priced, requires only 1′11″ x 3′8″ floor space, and low in operating cost. The new "Economy Electric" is the result of an open-minded approach by Vandercook engineers to develop a compact, durable and easily maintained machine that will safely deliver good proofs at high speed and take galleys up to 10″ wide. Write for more information!

VANDERCOOK PRE-PRESS ...CUTS COSTS!

VANDERCOOK & SONS, INC.

General Offices, Research Laboratory, Demonstration Room & Factory
900 North Kilpatrick Avenue, Chicago 51, Illinois Phone: EStebrook 8-1400

Eastern Office & Demonstration Room
323 East 44th Street, New York 17, N. Y. Phone: MUrray Hill 4-4197

Western Office
3156 Wilshire Blvd., Los Angeles 5, Calif. Phone: DUnkirk 8-9931

PRINTING EQUIPMENT *Engineer*

JUNE 1953

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

Volume 83 **Number 9**

PRINTING EQUIPMENT *Engineer*, Published monthly at 1276 West Third St., Cleveland 13, Ohio.

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Subscription price per year, $3.50 in advance in U.S.A. Single copy current issues, 35c; feature issue $1 per copy; December Equipment and Supplies Catalog Issue $2 per copy in United States, $2.50 outside of United States. (U. S. currency). Subscription in foreign countries $4.50 (U. S. currency) in advance. Canadian printing plant mechanical and production executives receiving Printing Equipment Engineer under CCA regulations will be charged $1 postage per year in advance to cover additional postage to Canada.

Member Circulation CCA Controlled Audit

Acceptance under section 34.64 P. L. and R., authorized.

Printed in U. S. A.

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AN INDUSTRY-WIDE TECHNICAL PUBLICATION

Pleased to be Part of this Picture . . .

It's a great tribute to the skill and ingenuity of the mechanical men responsible for our great newspapers that they can continue to get out an increasingly bigger product and yet maintain or improve the quality of reproduction.

We are pleased to have a part in this picture which we strive to enlarge by supplying *not merely mats* but a complete service that helps mechanical men achieve this performance.

This service consists, first, of top quality that's built into every Wood Dry Mat to assure the best in reproduction and, second, personal assistance in the solving of any problem which is offered by a man of long experience, the Wood Flong representative in your locality.

WOOD FLONG CORPORATION *Oldest In The Country*

WOOD DRY MATS — ALWAYS UNIFORM

HOOSICK FALLS · NEW YORK *First In The Field*

NEW YORK CITY OFFICE: 551 FIFTH AVENUE • NEW YORK 17, NEW YORK

Equipment and Supplies

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT Engineer, 1276 West Third St., Cleveland 13, Ohio.

Overlay for Artwork

EASTMAN KODAK CO. has reported that as the result of an employee's suggestion a use has been found for Kodak's Typographic Sheet, Type B, as an overlay for marking retouching instructions on artwork. The typographic sheet is a translucent acetate butgrate. One side is glossy, while the other has a fine tooth surface which is designed to take markings or writings of any type. These markings can be erased or wiped off with a damp cloth if desired and the sheet used over again. The thickness of the sheet permits such marking without damage to art work. The overlay material is available in the following sheet sizes: 40 in. by 50 in. and 40 in. by 60 in.; roll sizes, 20 in. by 50 and 100 ft. and 40 in. by 50 and 100 ft. If you request further details, please mention PEE No. 649 in your letter.

Electronic Sheet Counter

THE Electronic Sheet Counter developed by Unitronics, Incorporated, is claimed by the sponsor to count several thousand sheets per second. The instrument will count sheets or boards 0.003 in. or more in thickness. The count is obtained by moving a lightweight,

hand-held probe down the sloping edge of a fanned lift of sheets of paper or board which produces an illuminated total in red numerals on the face of the register unit. Four electronic counting decades can be used for indicating counts up to 9999.

After each sweep of the probe, the instrument is reset by pressing a push button on the panel or by stepping on a foot switch located on the floor. Sponsor describes the probe as a permanent magnet, reluctance type, displacement transducer whose output signal is amplified and shaped to provide a proper input signal to the first decade. The decade counting units, which are interchangeable, are permutated binary counters. They are provided with a resistor matrix to give decimal indication on the neon lamps which illuminate the digits in each column.

If further information is desired, please mention PEE No. 653 in your request.

Roll Handling Attachment

A ROLL handling attachment for the Walkie type electrical truck has been reported by Clark Equipment Co. The attachment is designed for picking up rolls of newsprint, fibre boards or other products in roll form, from either vertical or horizontal position, in and out of storage to a height of 130 in. Hydraulic clamps handle rolls varying in diameter from 24 in. to 42 in. and weighing up to 2000 lbs. For further details please mention PEE No. 634 in your request.

Floor Fastening and Vibration Reducing Pads

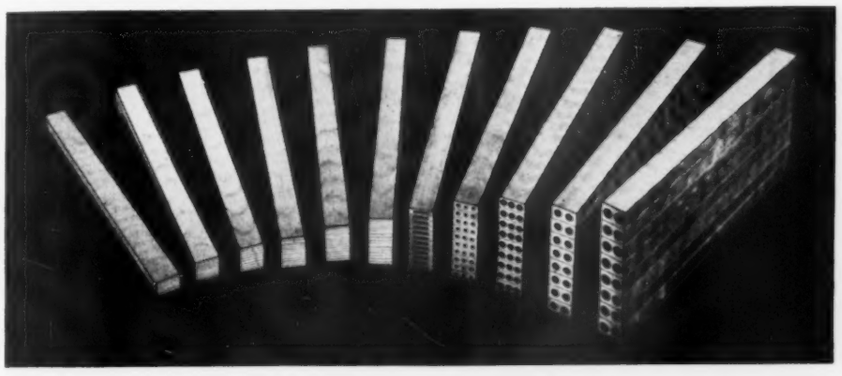
A PADDING material made of Neoprene has been developed by Vibro Modulator Mounts for fastening all types of machinery to floors and reducing noise caused by vibration. Sponsor claims installation of Vibro Modulator Mounts will isolate shock and vibration of the machinery from the building and also will isolate building vibration and shocks

(*Continued on Page 12*)

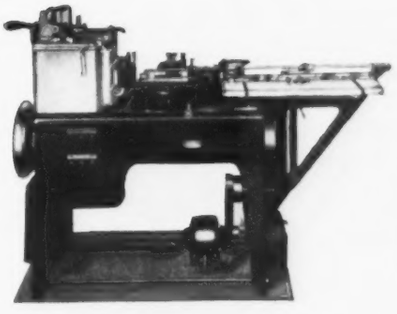
The Elrod

gives wide range of strip material

One Elrod machine produces leads, slugs, border rule and base material for mounting cuts, shell casts and electros, as well as metal furniture for blocking out and for make-up. This wide range of material, from 1-point to 36-points in thickness (see illustration below), is available from a single machine, and explains why many plants make the Elrod the basis of strip material production.



And what a relief for the compositor always to have enough strip material on hand, when and where he needs it! With the Elrod on the job, he knows that there will be plenty of material to see him through, and so his work proceeds with confidence and satisfaction. The pleasant experience of satisfied users may be yours also.



The Elrod is a single-purpose machine for producing strip material. Supplied with either gas-heated or electric-heated crucible, and it is simple in design and mechanism.

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14, Illinois

Set in members of the Ludlow Karnak family

ORIGINAL HEIDELBERG
10 x 15 Model
"In a class by itself..."
ORIGINAL HEIDELBERG

Here's why LINK-BELT SILENT CHAIN drives the majority of the country's high-speed, high-hp presses

A touch of the control button brings exact press speeds on this Walter-Scott five-unit press at the *New York Herald Tribune*. Two 100 hp. Link-Belt Silverstreak Silent Chain Drives have been in constant use since 1940.

New York Herald Tribune gets accurate printing at chain speeds up to 3664 fpm

This experience of the *New York Herald Tribune* is typical. In the 12 years they've used L-B Silverstreak Silent Chain Drives, they've had only efficient, trouble-free performance. It's little wonder that so many of the country's high-speed, high-production presses are driven through Link-Belt Silverstreak Silent Chain.

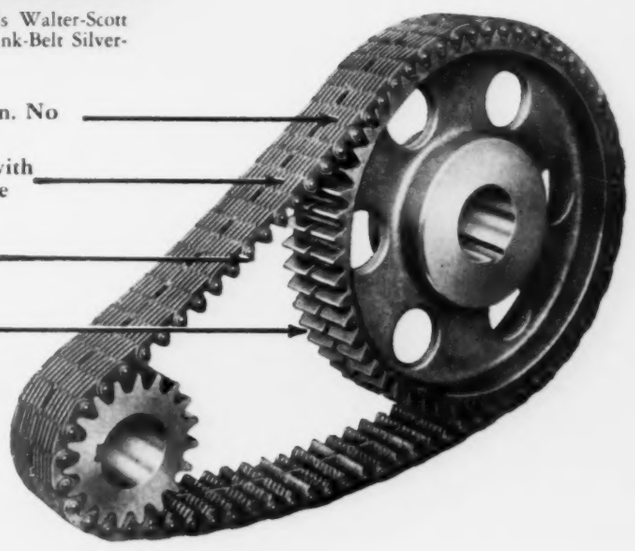
Regardless of your printing requirements—newspaper, magazine or rotogravure—check these time-proved drives. You'll find Silverstreak Silent Chain Drives unbeatable for dependable, high-speed press performance.

"Pull" is distributed equally across Silverstreak Chain. No possibility of uneven running—no slapping.

Narrow-width Silverstreak Silent Chain does the job with a *single strand*—eliminating dangers that come with use of multiple belts.

Husky Silverstreak *metal link* construction combines the ability to carry heavy overloads with the resilience that really absorbs shock.

Silverstreak Silent Chain doesn't rely on tension to get pulling power. Chain meshes with teeth—gives POSITIVE drive—no chance for slip.



LINK-BELT

SILVERSTREAK SILENT CHAIN DRIVES

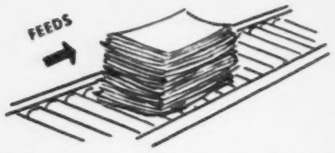
12,825

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices, Factory Branch Stores and Distributors in Principal Cities.

Wiretyer

fully automatic

SIX STEPS IN WIRETYER'S OPERATING CYCLE TAKE LESS THAN 2 SECONDS



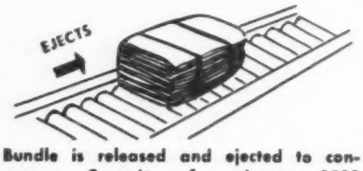
Bundle is conveyed into machine by wire-mesh belt and located for either single- or simultaneous double-tie.

Bundle is aligned in a neat stack by air-driven straightener; given precise alignment.

Overhead, air-powered ram compresses stack 25% of initial height; holds it while it is being tied.

Single or double wires are wrapped around bundle under controlled tension.

Wires are twisted in a secure tie; ends cut and buried. Safe for handlers; no damage to conveyors or other bundles.



Bundle is released and ejected to conveyors. Capacity of equipment 1500 bundles per hour.

Action photo of Wiretyer units in mailroom of Akron Beacon-Journal streamlining newspaper bundling by fully automatic operation.

YES, Wiretyer equipment is doing just that for newspapers and magazines whose mailrooms are equipped with this remarkable new development.

Increased production is accomplished because Wiretyer is fully automatic in operation, turning out single-tied or simultaneously double-tied bundles at the rate of 1500 an hour—hour after hour—with unfaltering performance.

The lower cost comes from engineering design that enables the use of lighter tying wire. This results in reported savings up to 50% in wire tonnage. And the Wiretyer owner buys inexpensive #17 gauge basic wire in the open market.

The exceptional accomplishment of increased production at more economical cost derives from five years of continuous engineering development and field use of Wiretyer equipment. Write to Wiretyer for Bulletin 101 for more detailed information on how "Wiretyer Equipment Ties More Bundles Faster —At Far Less Cost."

WIRETYER (Wiretyer) **CORPORATION**

6-2-53

230 WARBURTON AVENUE, HAWTHORNE, NEW JERSEY

We Salute

The Evening Star

THE WASHINGTON EVENING STAR

has had the distinction

of being awarded the

F. WAYLAND AYER CUP

for Excellence in Typography, Makeup and Printing

THIS AWARD symbolizes outstanding accomplishment and is a tribute of the highest order.

WE SALUTE the staff and all those associated with this great publication.

WALTER SCOTT & CO., INC.

PLAINFIELD, NEW JERSEY

5-53-6

Equipment & Supplies

(Continued from Page 6)

from precision machinery. It can be used on all types of equipment, from 90 T. presses to light duty compressors.

Vibro Mounts are attached to the machine with Teno Grip No. 9 Cement. The Mount is cemented first to the floor and then to the machine. Several hours are required for drying and proper adhesion. The material is available in three thicknesses—⅜ in., ½ in., and ¾ in.—and can be cut to any size according to the area of the base on which the machine rests.

Recommended static loading weights are 50, 70 and 100 lbs./sq. in. respectively for each of the three sizes. The company states that overloading as much as 100 per cent usually has no effect on either service life or function. It is claimed that the Mounts are resistant to oil, grease, water and some mild acids and alkalies.

George L. Seifert, President of Vibro Modulator Mounts, points out the material is beneficial for use on printing presses, not only to mount them permanently in the plant but also for mounting during transit, as the resilient Mount protects the press from vibration during shipment.

The Teno Grip cement permits the mounting of machinery to most any kind of floor, including wood, concrete or steel. Strength of the cement bond when applied to a metal surface is as follows: Shear strength, 220 lbs./sq. in.; tensile strength, 120 lbs./sq. in. The amount of vibration that is isolated is usually between 50 and 100 per cent, and on noisy machines sponsor claims a considerable reduction in the noise level, the amount depending upon the application.

It is further claimed that Vibro Mounts do not harden up with use or lose their resilience. More details are available by mentioning PEE No. 643 in your request.

here's how Rouse REDUCES YOUR TIME COSTS

CUT A FULL GALLEY OF MIXED MEASURES SLUGS IN ONLY 35 SECONDS

Rouse BAND SAW

No more gauge setting! No more reclamping or measuring! That's why the Rouse Band Saw offers you by far the most economical way to accurately cut slug lines to different measures in the shortest possible time. No other machine nor method can even come close to this achievement.

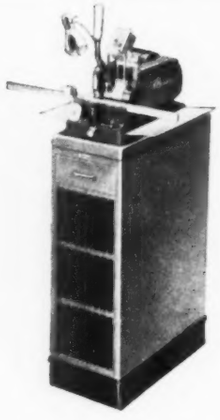
If you operate one or more linecasting machines on variable measure composition, the Rouse Band Saw will do the work of hours in minutes. Expensive time saved will be unusually great in work requiring frequent changes in line measures, such as ad work, catalog runaround work, etc.

NEW ROUSE CATALOG

Write for your copy TODAY!

CUT 1000-1200 ACCURATE MITERS IN ONLY 1 HOUR

Rouse POWER MITERER



If you need miters in either small or large quantities, no other machine nor method can turn out anywhere near as many perfect joining miters from strip material. That's how the Rouse Power Miterer can slash your time costs by doing work in minutes that now takes hours. It quickly pays for itself in expensive time saved.

From the smallest job shop up to the largest plant, only Rouse makes a Power Miterer for every type of use. Can be bought as a bench model or with any other equipment you wish.

Virtually every printing plant in the world uses one or more Rouse Time-Saving Products for Printers

H. B. ROUSE & COMPANY

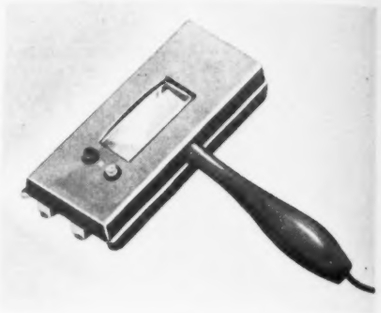
2214 N. WAYNE AVENUE, CHICAGO 14, ILLINOIS

MITERING MACHINES
LEAD and RULE CUTTERS
COMPOSING STICKS
TYPE GAUGES
SLUG CLIPPERS
BAND SAWS

ROUSE PRODUCTS—THE STANDARD OF THE WORLD FOR 50 YEARS

Fluorescent Hand Viewer

A PORTABLE Fluorescent Hand Viewer for inspecting press sheets, printing plates or other uses where close viewing is desirable, has been reported by Stocker & Yale, Inc. The unit is available with either a 2X or 4X built-in lens for magnification. Twin fluorescent lamps are positioned on either side of the lens. Sponsor claims the lamps are rated at 7500 hrs. life. The extension cord at the end of the handle may be plugged into any standard electrical outlet. Another model equipped with the fluorescent light source only is available. Please mention PEE No. 639 when requesting more information.



Roll-Fed Cutter-Creaser

A PLATEN-TYPE press, developed by Champlain Co., Inc., cuts, creases and automatically strips roll-fed cardboard to make carton blanks for packaging everything from toothpaste to crackers. This equipment can be operated at speeds up to 100,000 sq. ft per hr., according to sponsor. It accommodates a cardboard web up to 42 in. wide and cuts through 30 pt. board.

The unit can be used either as a separate press or as part of an inline operation in conjunction with rotogravure, letterpress or flexographic rotary press equipment. The Champlain cutter-creaser is equipped for intermittent feed with reciprocal movement of the cutting platen. A Universal stripping cylinder removes 100 percent of all scrap, claims sponsor.

Positively-driven infeed rollers position the incoming web under the die. It is further claimed that the stationary lower platen assures straight-line support of the web passing through the press.

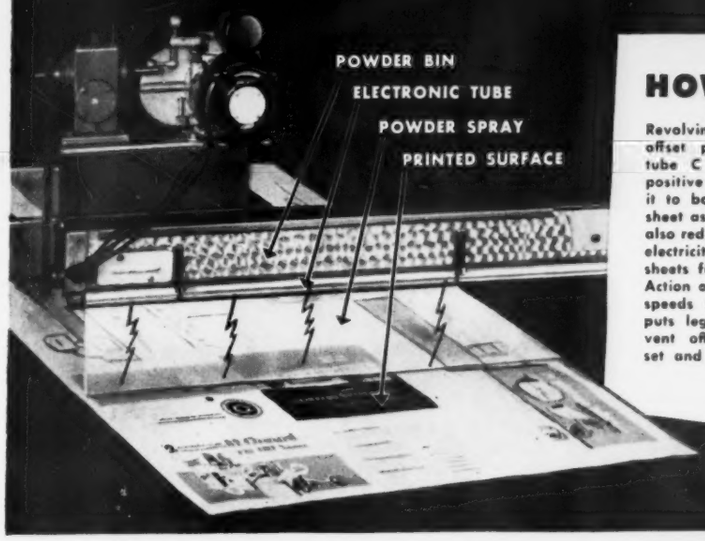
Speed of the carton press is between 7,500 and 10,500 i.p.h., or a maximum of 450 web f.p.m. The 26 in. model has a chase area of 28 in. by 34 in., covers 7¼ ft. by 22 ft. of floor space; the 36 in. model, a chase area of 37 in. by 34 in. and a floor space of 8 ft. by 22 ft.; and the 41 in. model, a chase area of 42 in. by 34 in., with a floor space of 8½ ft. by 22 ft.

The Champlain cutter-creaser is built

(*Continued on Page 16*)

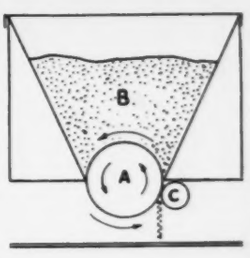
OXY-DRY

THE MOST EFFICIENT OFFSET PREVENTION METHOD



HOW OXY-DRY OPERATES

Revolving shaft A distributes anti-offset powder B past electronic tube C which gives 10,000 volt positive charge to powder causing it to bond instantly across entire sheet as it is delivered. This action also reduces negative charge (static electricity) in paper which frees sheets from sticking and jamming. Action of ozone emitted from tube speeds oxidation of ink, powder puts legs between sheets to prevent offset and permits inks to set and dry thoroughly.



gives you

- Uniform, full, free flowing loads *for sharply increased hourly impressions*
- Equipment that sprays the sheet only *with dry efficient powder*
- A smooth, clean spray and waste-free operation *that increases your profits by producing more deliverable sheets*

gets rid of

- Uneven loads from spotty build-up of sticky spray or powder clots
- Scatter-shot spraying that coats the whole pressroom
- Messy, dirt-catching spray films and powder clots that waste paper, press time and press maintenance

NEW

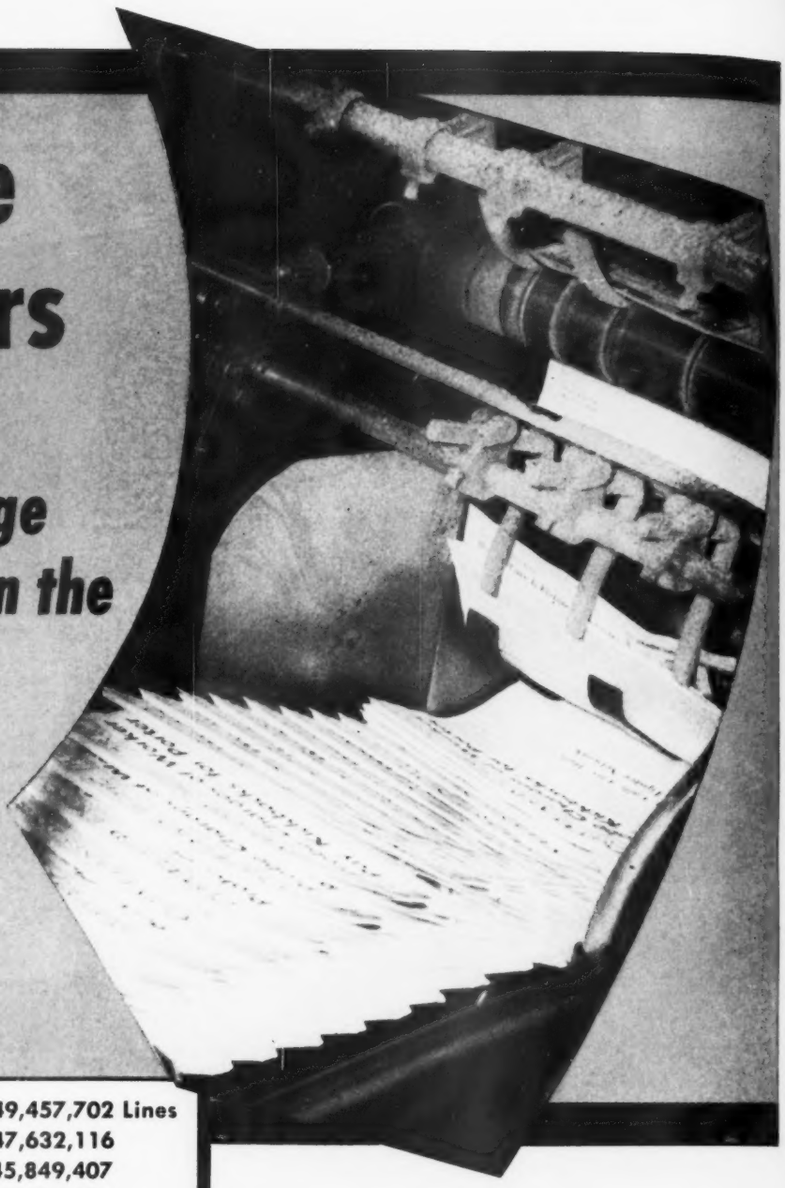
OXY-DRY rollers are now furnished with positive powder control etched surface. Eliminates "down-time" for costly labor time sanding, permits operation of sprayer for far longer time without service of any kind except to refill with OXY-DRY powder... one of a parade of improvements you can expect only from OXY-DRY research and development.

These Nine Newspapers

of the Top Ten in Advertising Linage for 1952 Rely upon the

Imperial PLUS PLAN

FOR MAINTENANCE OF THEIR METAL SUPPLIES



Milwaukee Journal	49,457,702 Lines
Chicago Tribune	47,632,116
Los Angeles Times*	45,849,407
Washington Star	42,494,020
New York Times**	41,721,343
Miami Herald	39,371,257
Cleveland Plain Dealer	38,687,083
Baltimore Sun	38,154,798
Philadelphia Inquirer	38,133,092
Detroit News	37,242,380

* Imperial does not sell on the Pacific Coast

** At present using Imperial PLUS PLAN in composing room

Linage figures from Media Records

These highly successful newspapers do not *guess* about the quality of their type metal nor take chances on production losses through type metal deterioration. They rely upon the "Imperial" PLUS PLAN in maintaining the quality of their type metal *at all times.*

Hundreds of other daily and weekly newspapers also depend upon the "Imperial" PLUS PLAN for accurate maintenance of the day-in and day-out quality of their working metal supplies.

Periodic analysis, Plus Metal control, dross drum service and personal counsel comprise the "Imperial" PLUS PLAN. If you are not now using the "Imperial" PLUS PLAN, ask us for complete details.

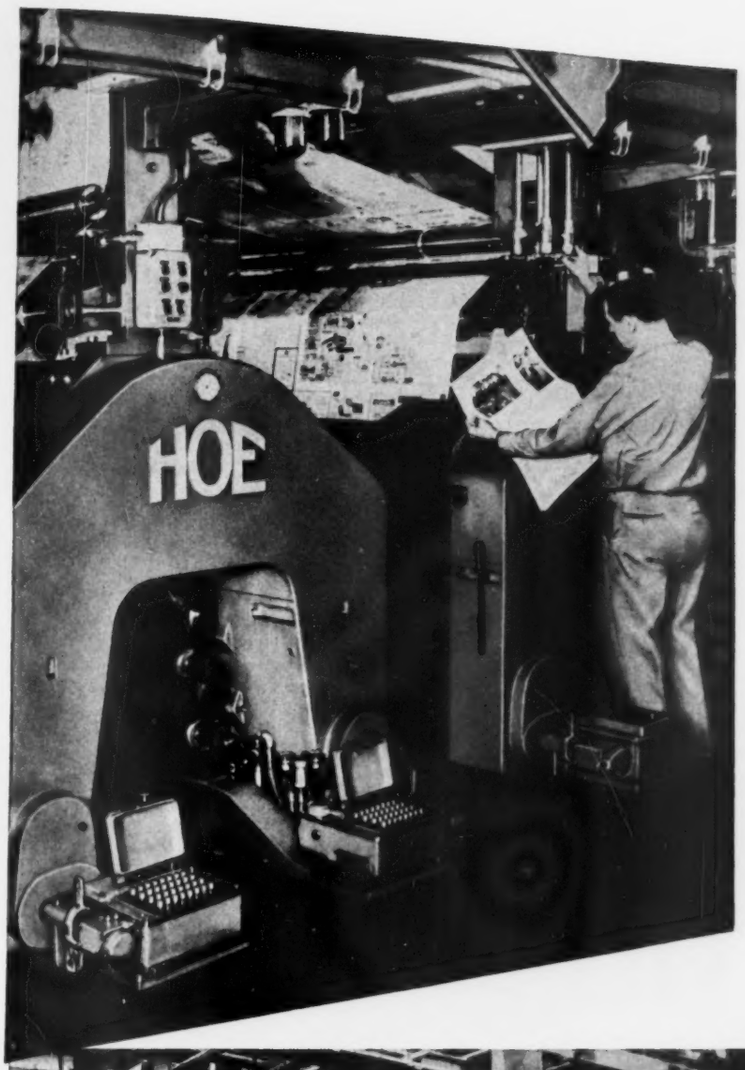
Imperial

TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS *Exclusively*

PHILADELPHIA 34 • NEW YORK 7 • CHICAGO 50

From Reels to Folders



WHEREVER A NEWSPAPER has installed a HOE COLOR-CONVERTIBLE PRESS, the men responsible for pressroom operations know they always can rely on it for a continuously smooth performance whatever the production schedule.

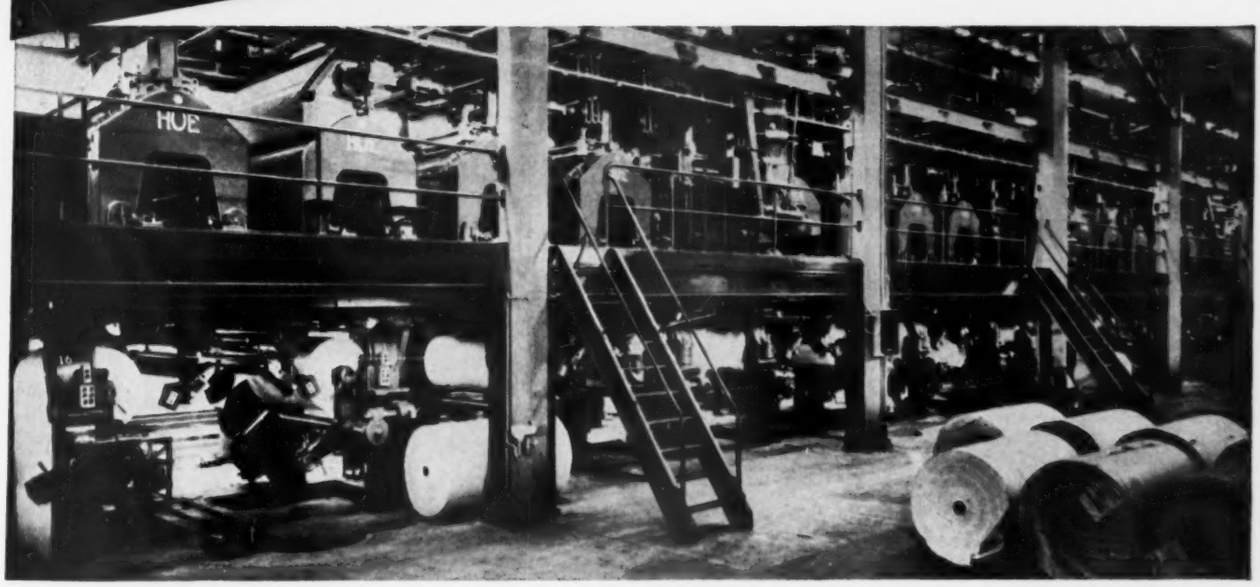
Roll preparation and web-threading are simple, fast and safe. Plate lock-up is instantaneous. Ink control is convenient and positive. Visual micrometer impression adjustments are made from outside the press. Web-splicing is automatic and effortless.

In every way the COLOR-CONVERTIBLE is designed and built to simplify operations, minimize maintenance and *speed production*.

R. HOE & CO., INC.

910 East 138th Street New York 54, N. Y.

BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO
BIRMINGHAM • PORTLAND, ORE.



Equipment & Supplies

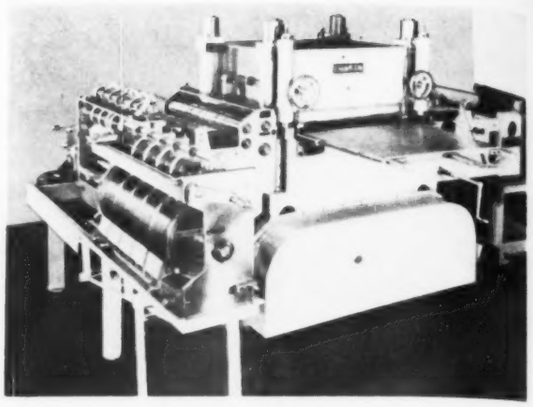
(Continued from Page 12)

in four main sections: (1) feed, (2) cutting and creasing, (3) stripping and (4) delivery.

Feed section consists of positively driven feed rollers, adjustable web side guides and a compensator mechanism for use with printed web. The section also includes an automatic device that detects hindrance to web travel, and stops the press when trouble appears.

Cutting and creasing section is made up of a reciprocating platen and drive components. The chase which holds a wood block or jig-saw type die is located by guides and held in position by clamps in the upper platen. A hardened steel counter plate with holder is located by guides and fixed to the lower platen. Guide pins are designed to assure relative position of die chase and counter plate during lockup. Heavy alloy steel eccentric shafts mounted on barium bronze main bearings move the upper platen.

Stripping section is made up of a conveyor, the rotating waste extractor and a waste disposal system. Synchronizing rollers propel die-cut impressions to the conveyor from the press at a speed and position register to the waste extractor. The extractor, which is built in one piece, can be withdrawn from the front of the press. Waste is dropped into a disposal duct leading to a blower, where it is discharged. Carton blanks are sent on to the delivery section.



The Champlain roll-fed cutting and creasing press with processing speeds of up to 100,000 sq. ft. per hr.

At the delivery section, separating wheels mounted on a slow moving belt discharge the carton blanks in shingled fashion. Speed, location and direction of separating wheels are adjustable. Speed of the belt is proportionate to press speed. A hand-set rheostat adjusts the speed of the belt, controls the height of the layer of shingled blanks on the belt.

For more information on the cutter-creaser, please mention PEE No. 635 in your request.

Exposure Frames Bulletin

COLWELL LITHO PRODUCTS, Inc. has prepared a two-color four page bulletin containing illustrations and descriptions of four models of the Colight Exposure Frame. Colight units are designed in different sizes for making offset plates for Davidson, Harris, Miltilith and Webendorfer presses up to 17 in. by 22 in. size. Step-by-step operating instructions for exposing plates in the frame are included. Detailed specifications on both the vacuum and non-vacuum types are also given. For a copy of this bulletin, please mention PEE No. 651 in your request.

Remelting Instruction Hanger

A REMELTING Instruction Hanger for reference in the type metal remelting room has been published by Imperial Type Metal Co. Simplified instructions for proper remelting of type metals are given. The instructions covered are as follows; Remove trash, remelting temperatures, stirring, fluxing, skimming dross, adding plus metal, re-

(Continued on Page 26)

. . . thINKing

Printed words
are visualizations
of thought

When you're thinking of brilliance, economy, beauty and speed in printing, the words are . . .

CHARLES ENEU Johnson COMPANY, INC.

GOOD INKS SINCE 1804

NEW YORK CHICAGO BOSTON ST. LOUIS
CLEVELAND DETROIT BALTIMORE KANSAS CITY
PITTSBURGH ATLANTA DALLAS

10th and Lombard Streets, Philadelphia, Pa.

50,000-Circulation Daily Has Lowest Net Since '46

Revenue Gains Offset by Higher Costs Again in '52 for "Typical Daily"

By Robert U. Brown

FOR THE eighth year in a row increasing costs outpaced increasing revenues on E & P's 50,000-circulation "typical daily" leaving that newspaper in 1952 with its lowest net profit since 1946.

Composing Room

Composing room costs, second to newsprint as the largest expense item, totalled $456,086, an increase of 1.5% over the previous year. Production amounted to 89,251 columns at a cost per unit of $5.11. Man hours in production were 165,501 with production per man hour at .54 units. In 1951 composing costs were $449,346 with production at 88,604 columns and cost per unit at 5.07. Man hours in production were 161,072 and production per man hour was .55 units.

EIGHT-YEAR RECORD OF REVENUES, EXPENSES

Operating Expenses	*1952*	*% of Total*	*% Inc. 1952 Over 1951*	*1951*	*% Inc. 1952 Over 1945*	*1945*
Comp. Rm.	$ 456,086	21.05	1.50	$ 449,346	160.51	$ 175,075

EDITOR & PUBLISHER
for April 11, 1953

These Representative Newspapers Cut Composing Room Costs with MORRISON SAW TRIMMERS

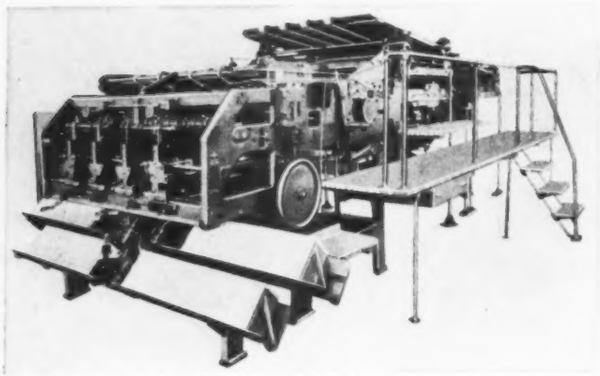
NEWSPAPER	NO. OF MORRISON SAW TRIMMERS
Buffalo Evening News	10
Buffalo Courier Express	9
Chicago Daily News	8
Chicago Herald American	8
Cincinnati Enquirer	8
Cincinnati Post	6
Cincinnati Times Star	3
Cleveland Plain Dealer	13
Cleveland Press	5
Columbus Dispatch	12
Dallas News	11
Dallas Times Herald	9
Detroit News	17
Detroit Free Press	5
Detroit Times	7
Fort Worth Star Telegram	6
Fort Wayne Newspapers	11
Hartford Courant	4
Houston Chronicle	9
Houston Post	8
Indianapolis Star	9
Kansas City Star	9
Little Rock Arkansas Democrat	6
Memphis Commercial Appeal	4
Los Angeles Examiner	4
Miami Daily News	4
Milwaukee Journal	25
Nashville Banner & Tennessean	6
New Haven Register	5
New Orleans Times Picayune	13
New York Times	15
New York World Telegram	12
Philadelphia Inquirer	6
Pittsburgh Press	11
San Jose Mercury News	5
St. Louis Globe Democrat	14
St. Louis Post Dispatch	14
South Bend Tribune	7
Tulsa World & Tribune	5
Washington D.C. Daily News	5

Morrison Model 3-A Saw Trimmer. The fastest, most efficient saw trimmer money can buy. Has the longest life and lowest maintenance cost. Check the advantages of the entire Morrison line. Write for catalog.

Symbol of Operating Economy
THE MORRISON COMPANY MILWAUKEE WIS.

THE *Morrison* COMPANY
PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY
125 W. Melvina St. • Milwaukee 12, Wisconsin

Folds as many signatures hourly as two model "N" Quads . . . . with 33% saving in floor space



The Dexter Duplex Quad Book Folder

Basically a Model "N" Quad folder, this machine has an additional cross feeder and delivers *two* sheets on separate conveyors simultaneously to position at first fold, one above the other and individually registered both side and front.

Signature sizes: 4⅛ x 6¼" to 7¼ x 10½".
Flat size sheets: 25 x 33" to 42 x 58".

The sheets are folded and delivered into packer boxes as on the "N" Quad, but the *Duplex* Quad delivers four 32 page signatures with *closed* heads, whereas the Model "N" produces two 32's composed of inserted 16's.

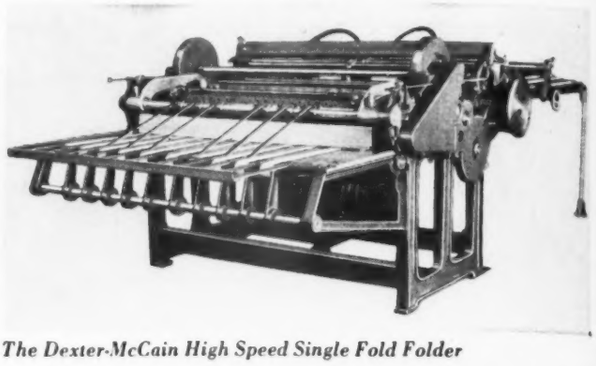
The Duplex Quad may be furnished as a complete new unit—or a Duplex attachment can be supplied for any Model "N" Quad already installed.

The Duplex Quad folds approximately as many signatures per hour as two Model "N" Quads, with a saving of about one third of the floor space required by two Model "N" Quads. Also the 32 page signatures with closed heads delivered by the Duplex Quad facilitate subsequent bundling, gathering, sewing and stitching operations.

Further information and data showing the economical application of this folder to your production will be furnished on request.

Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.
Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis
Agents in principal foreign countries

Folds, slits and stacks four-page jobs at up to 12,000 sheets per hour



The Dexter-McCain High Speed Single Fold Folder

With the Dexter-McCain High Speed Single Fold Folder, covers, inserts and other four page jobs, singly or in gangs, are folded, slit apart and stacked on flat delivery at speeds of 10,000 to 12,000 sheets per hour, depending on quality and condition of stock.

Maximum size sheet handled is 24 x 50"; minimum size 12 x 18".

This machine is also equipped to handle center bleed trimming. It has continuous air wheel feeder, is rigidly constructed and has ball bearings and roller gears, hardened and ground.

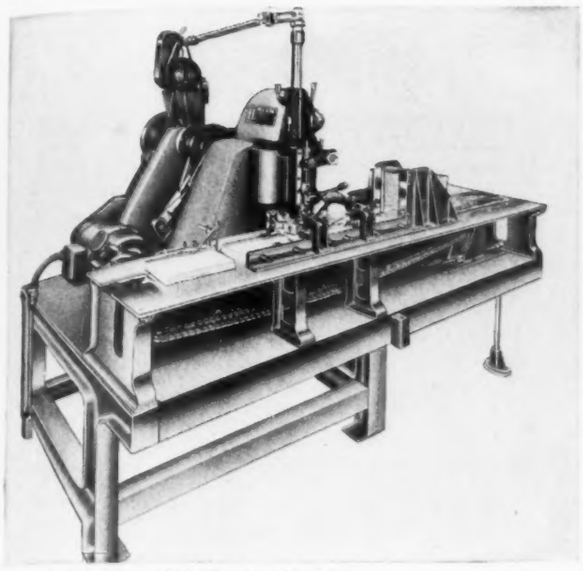
A valuable feature of this folder is that it folds with ease covers and other heavy stocks which are difficult to handle on other types of folders.

This machine is now being used mainly to fold long runs of covers for magazines of large circulation.

Our representative will give you further information about this high speed, single fold folder.

Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.
Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis
Agents in principal foreign countries

Sewn this way, books are much stronger, and they cost less to produce



The McCain Book Side Sewing Machine

This machine produces much stronger, much more rugged books.

Its maximum operating speed is 250 one inch stitches per minute.

Books more than ¾" thick are drilled half from above, half from below.

Drill chips are removed by vacuum. Single thread is used, lubricated with liquid soap.

As book is sewed, bottom row of stitching is tightly glued for extra strength.

End sheets and reinforcing strips are sewed right in. Separate color and halftone pages are jogged and sewn into the complete unit.

Machine is easily adjusted, cleaned and lubricated.

Estimated production in number of books*

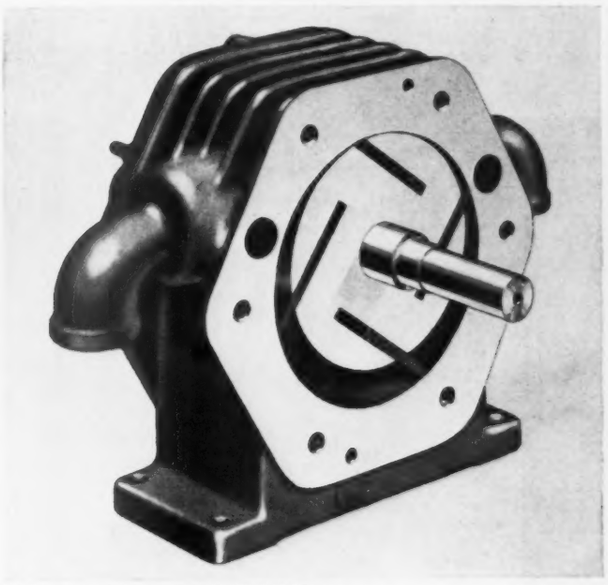
Thickness	Books per hour	Thickness	Books per hour
3/16 to 3/4"	1,000	1-1/2"	600
7/8"	900	1-3/4"	500
1"	800	2"	400
1-1/4"	700		

**Based on books 8½" long and untrimmed*

Write for brochure telling more about this method of producing much stronger books and at the same time raising production and reducing binding costs.

Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.
Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis
Agents in principal foreign countries

Provides oil-free air blast — or vacuum — for printing and packaging machinery



The Dexter-Conde DRI-AIR *Pump*

Here are some of the advantages you get with this new oilless pump:

- No lubrication required
- Air blast completely free from oil pollution
- High efficiency that actually increases as pump is used
- Cool running — with long life and negligible wear
- Doesn't overheat. Doesn't freeze up
- Has no oil cups to be kept filled and turned down, or expensively forgotten. Never accumulates greasy dirt or oil pools, to create a fire hazard
- Double-sealed, grease-packed New Departure ball bearings operate under normal atmospheric pressure and are completely removed from pump chamber
- Tolerances are close and there are no gaskets to leak or blow
- Carbon-graphite alloy vanes are stick-proof, warp-proof, chemically inert. They provide their own lubrication and become increasingly efficient as the pump is used.

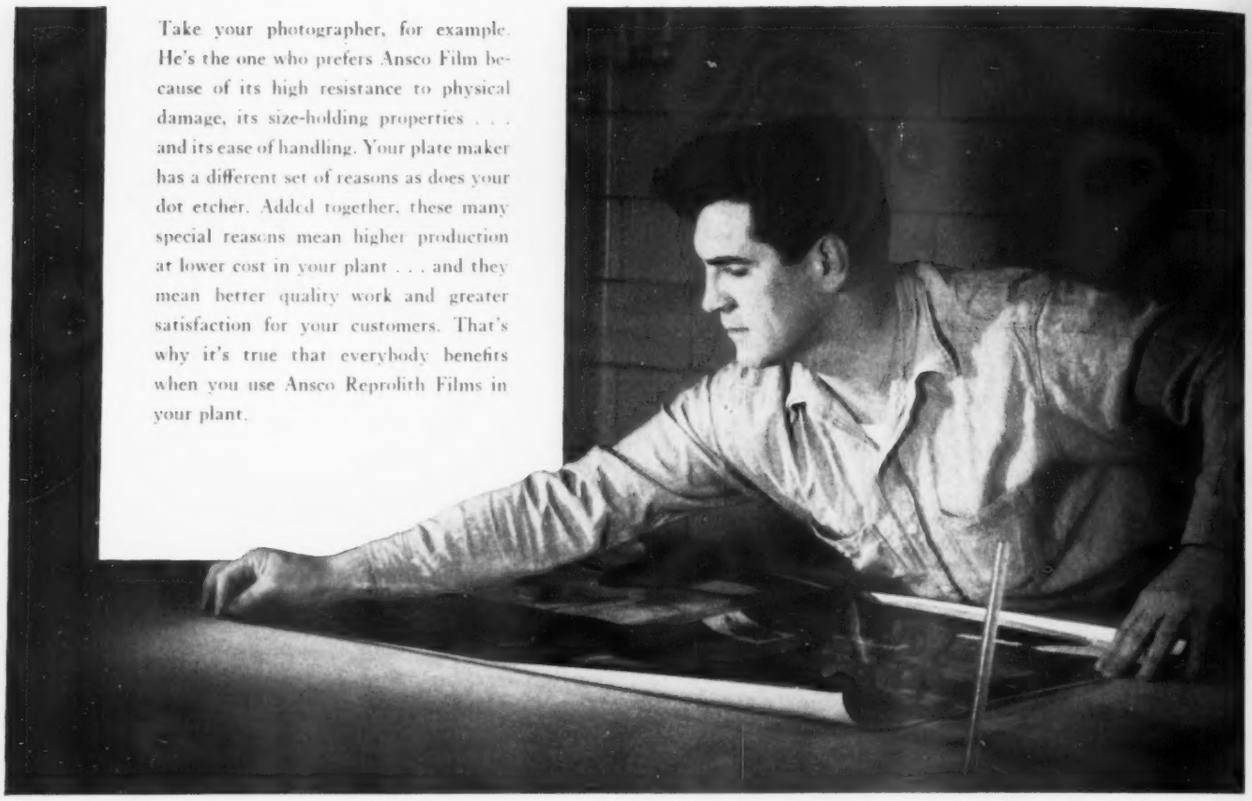
The Dexter-Conde DRI-AIR Pump makes a clean installation and is available in three sizes, one of which will meet your air blast and vacuum requirements.

Write for circular giving additional information.

Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.

Everybody benefits when you use Reprolith Film!

Take your photographer, for example. He's the one who prefers Ansco Film because of its high resistance to physical damage, its size-holding properties . . . and its ease of handling. Your plate maker has a different set of reasons as does your dot etcher. Added together, these many special reasons mean higher production at lower cost in your plant . . . and they mean better quality work and greater satisfaction for your customers. That's why it's true that everybody benefits when you use Ansco Reprolith Films in your plant.



Ansco Reprolith Ortho Film

This extremely useful Ansco Reprolith Film has high contrast and a good degree of orthochromatic sensitivity. It is a favorite medium for halftones, and is well suited for line copying of both black-and-white and colored copy. Filters can be used to improve rendition of copy which would otherwise require handwork on negatives.

FOR BEST RESULTS, USE ANSCO REPRODOL DEVELOPER

Especially designed for photomechanical use, Reprodol produces the maximum density and high contrast for fine quality work. Developing time runs 2 to 3 minutes in fresh solution. Reprodol is available in laboratory-packaged containers in 2 and 10-gallon sizes.

IN THE GRAPHIC FIELD IT'S ANSCO

ANSCO Binghamton, N. Y. A Division of General Aniline & Film Corporation.
"From Research to Reality."

If Using

OLD FASHIONED LAMPS

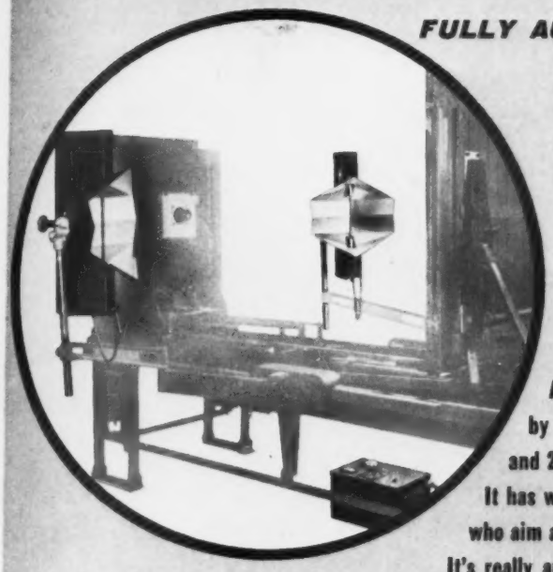
Has Become a Habit With You—

You'll be agreeably surprised how much money you can save... how much better work can be done ... with the new, low-cost

GRAFARC CHALLENGER

FULLY AUTOMATIC HIGH INTENSITY

CAMERA ARC LAMP



Avail yourself of the many advantages afforded by this vertical trim lamp which burns at 75 amperes and 23 volts at the arc.

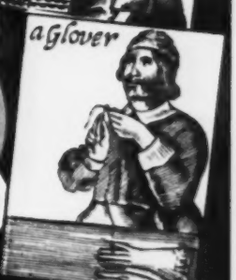
It has won immediate, widespread acceptance with those who aim at better work.

It's really automatic—the arc current controls the carbon feed so that the illumination and color temperature are constant. Here is true advancement in arc lamp design.

Uniform illumination is provided on work of any size, with extreme steadiness of light volume. The Strong Grafarc time-proven method of compensation for line voltage variations has been incorporated in this amazing new lamp. It's easy to see why such wide approval has been accorded the Challenger.

It is light in weight, and readily mounted on the lamp support arms of any camera.

Adapters are available to fit all makes of cameras. The Challenger can also be used as a printing lamp.



THE ANSWER TO ALL YOUR LIGHTING NEEDS

Better abandon those old lamps of yours now. There are modern Strong Grafarc lamps designed for all photo-mechanical processes—printing lamps, camera lamps, photocomposing lamps, and overhead printing lamps. You can buy any of them with confidence.

THE STRONG ELECTRIC CORPORATION
TOLEDO 2, OHIO
307 CITY PARK AVENUE

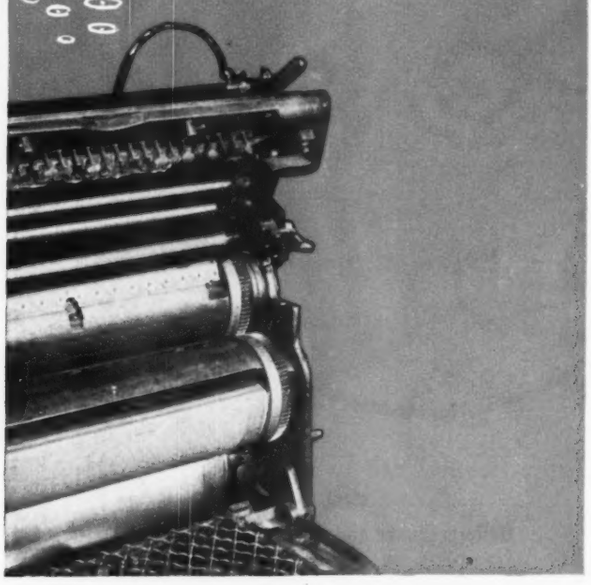
Please send free literature on the complete line of Strong Grafarc Lamps.

NAME _____
FIRM _____
STREET _____
CITY & STATE _____
NAME OF SUPPLIER _____

USE COUPON NOW TO OBTAIN COMPLETE LITERATURE.

THE WRONG KIND OF A HALO!

if your halos are showing in your solids, there's one sure way to iron them out—use **Ideal Masterlith Vulcanized Oil Rollers** last over the form—



IF IT REVOLVES GET IDEAL COVERING

For years, experienced lithographers of the old school have known how to banish these annoying "hickeys" with the good old Saxon name—that's why you'll find **Ideal Masterlith Vulcanized Oil Rollers** in every quality litho house.

IDEAL ROLLER & MANUFACTURING CO.

6069-6073 Maywood Avenue
Huntington Park, Calif.

2512 West 24th Street
Chicago 8, Illinois

21-24 Thirty Ninth Ave.
Long Island City 1, N.Y.

EASTERN Equipment and Supplies

Top Quality, Consistent Economy assure you of Peak Production Efficiency!

Year after year, EASTERN is a favorite source of supply for pressrooms, composing rooms, stereotype and engraving departments.

Is your newspaper one of the many hundreds that look to EASTERN for *fast, dependable service* on *every* order?

If so, we want you to know of our *continuing policy* to provide best possible service at lowest cost.

If you have not yet placed an order with EASTERN . . . do it now! *You'll be pleased in every way.*

REPRESENTATIVES FOR:

STA-HI CORPORATION
Master Former, Premier Shaver, Vacuum Casting Box, Power Form Lift, Master Router

H. B. ROUSE COMPANY
Composing Equipment and Accessories

CHALLENGE MACHINERY COMPANY
Composing Room Equipment

AMERICAN STEEL CHASE COMPANY
Newspaper Chases, Make-Up Trucks

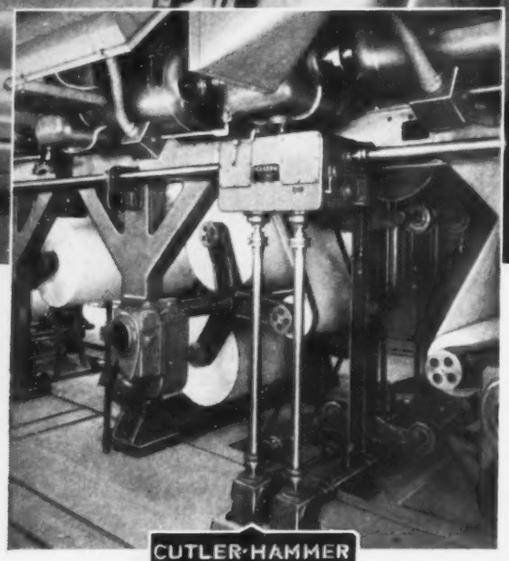
WESEL MANUFACTURING COMPANY
Electric Proof Presses, Flat Routers

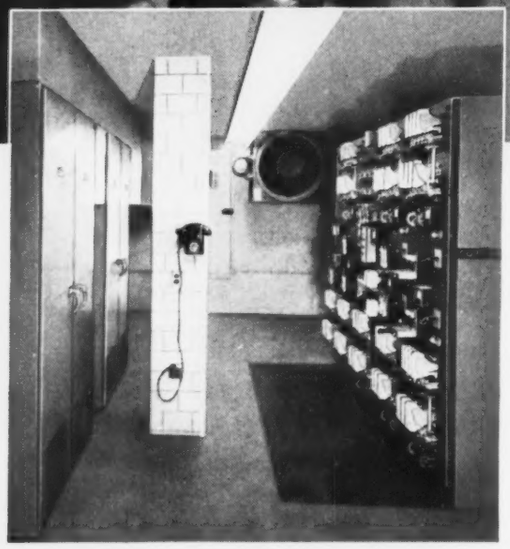
THE MORRISON COMPANY
Composing Saws

EASTERN FOR ECONOMY

EASTERN NEWSPAPER SUPPLY, INC.

9603 Northern Boulevard • Corona 68, N. Y.

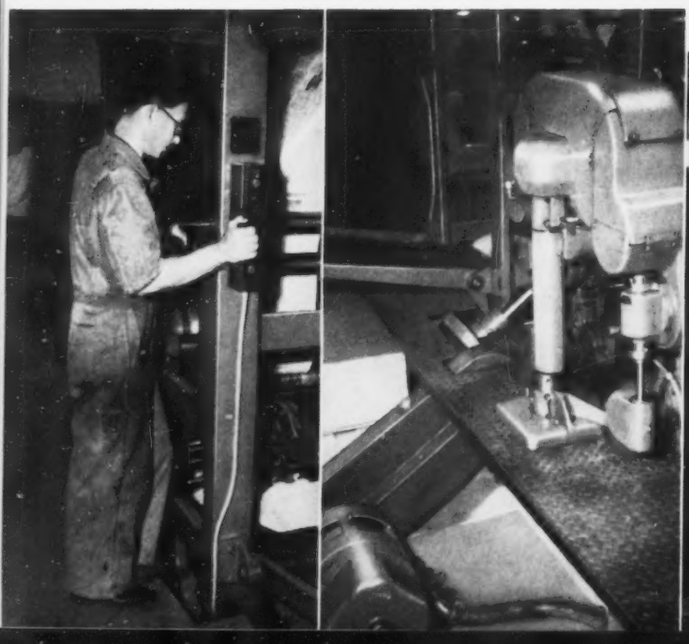


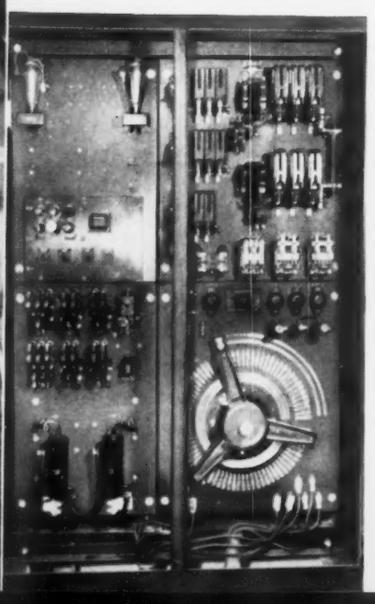


Cutler-Hammer Control for Unit Press D
used on Goss Headliner Press in plan

CANTON, OHIO, REPOSITORY

This $600,000 seven unit installation has print-
ing capacity of 45,000 copies of 56 page
per hour, an average delivery of 42,000 per
hour. Space for expansion is provided at both
ends. Color equipment is included.





CUTLER·HAMMER
MOTOR CONTROL
C·H

Cutler-Hammer Electronic Control for Sing
Motor Drive on Goss Tubular Press at

GOSHEN, IND., NEWS DEMOCRAT

One of a series of highly successful Cutler-
Hammer Electronic Single Motor Drives on
tubular type presses. Simple, dependable,
highly efficient.

THE CUTLER-HAMMER CONTROL FOR UNIT DRIVE IS THE RIGHT CONTROL

Simple
Dependable
Flexible

Like all controls in the extensive Cutler-Hammer Line of *right* press control equipment, this company's control for unit press drive is marked by the utmost simplicity. Such simplicity in gaining maximum continuous press production actually results in greater dependability and economy of operation, and above all *true* flexibility. This control is easy to understand as well . . . an advantage appreciated by the installing contractor and by the plant electrician who has to maintain electrical operation.

Among its features, each press unit has its own motor—*and each motor has its own control.* As a result, units are easily cut in and cut out. And troubles such as changing load adjusting resistor switches, equalizing the load among motors, circulating currents and excessive current peaks are a thing of the past.

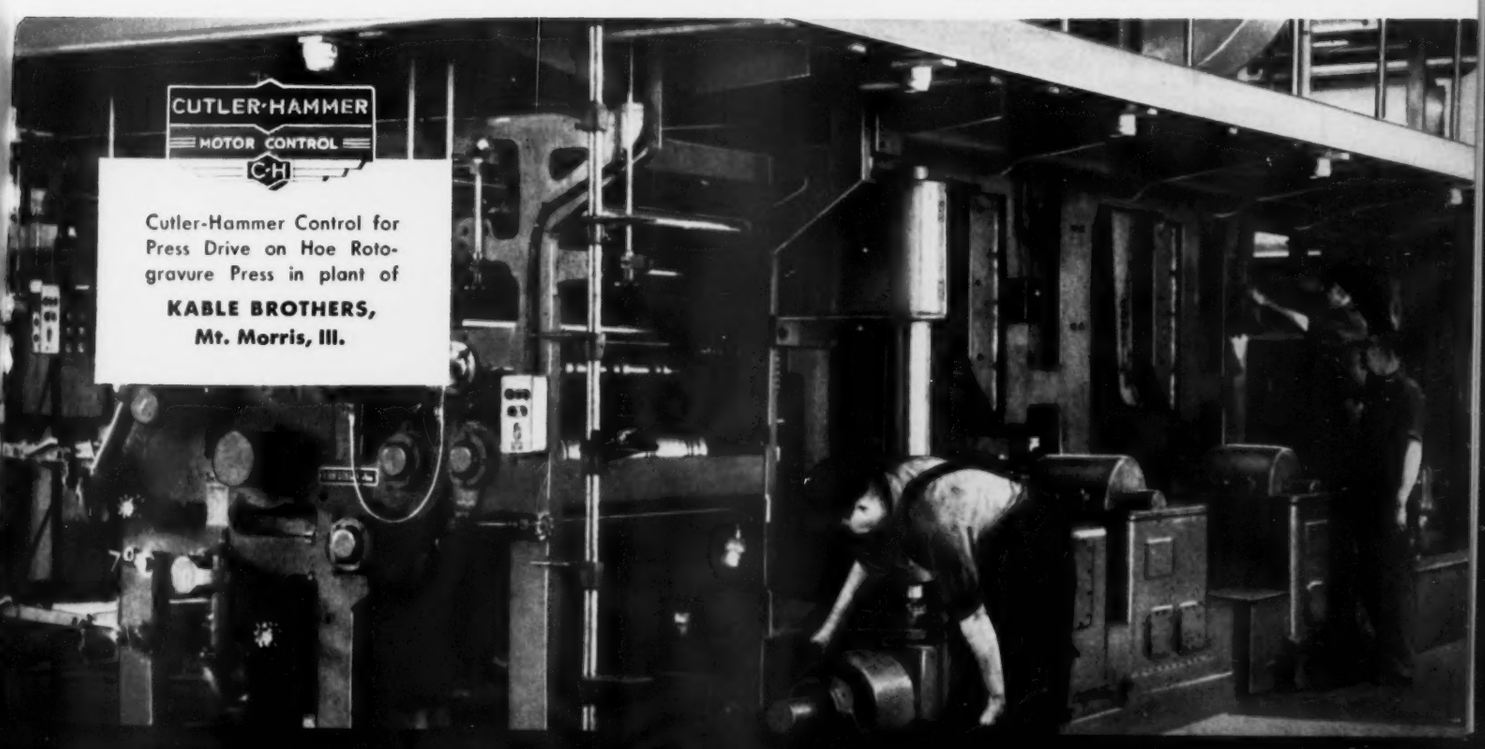
Here also are used tried and true standard industrial control components familiar to the average electrician and requiring no specialists' expert knowledge. Furthermore, all control equipment can be mounted away from the press and installation is relatively simple and economical. Simple and sturdy wound rotor a.c. motors are used, easily installed, aligned and serviced. These motors have ample overload capacity for operating the press at full speed should one motor fail . . . also for driving additional color decks. Their smooth automatic acceleration is provided by the C-H cam drum accelerating device with 72 speed points. The provision of a gearhead motor for inching and threading ends the need to energize the driving motors for these operations. Dynamic braking eliminates the use of a special motor with built-in brakes.

For dependability, flexibility, economy, and for maximum production, specify Cutler-Hammer Control for Unit Press Drives. CUTLER-HAMMER, Inc., 1460 St. Paul Ave., Milwaukee 1, Wis.

CUTLER-HAMMER
WEB BREAK DETECTORS
Stop press instantly if web breaks. Web can be rethreaded without latching detectors. Easy to mount.

CUTLER-HAMMER
MOTOR CONTROL
C-H

CUTLER-HAMMER
WEB SEVERING DEVICE
A Cutler-Hammer "original" that has resulted in greater total savings than any other single accessory. It instantly slashes broken web close to impression and guards against destructive wrap-arounds and costly delays—resets automatically.



Tell 'em you want

ALBANY

and stick to it!

When someone brings in a "best friend" or a "good customer" who sells lubricants, it's mighty hard to resist the pressure. On the other hand, it's up to you to keep your equipment humming along at high speed, free from burned out bearings and other troubles caused by improper lubrication. That's why we suggest that you tell them you want ALBANY and stick to it.

ALBANY won't let you down. For 85 years, ALBANY Grease and Oil have been the leaders in the printing trade—perfected for modern presses. When you use ALBANY, you're making your work easier, protecting your equipment and enhancing your own reputation.

Write us if you have any lubrication problems.

Write today for Service Bulletin No. 10.

ADAM COOK'S SONS, INC.

Mfrs. of Albany Lubricating Products

LINDEN, NEW JERSEY

Equipment & Supplies

(Continued from Page 16)

pigging, treatment of stereotype supply, and how to collect samples for analysis. The hanger is printed on durable card stock and is provided with a brass grommet for hanging on the remelting room wall. A place is provided on the hanger for suspension of a carton of Vitaflux. Remelting equipment and supplies are illustrated and described on the reverse side. A copy of the instructions will be sent to you upon request. Please mention PEE No. 646.

Sta-Hi Master Matcher Color Comparator and Registering Machine

STA-HI CORPORATION has developed the Sta-Hi Master Matcher, a color comparator and registering machine for stereotype color mats. The Master Matcher is designed primarily to be used in newspaper color work in conjunction with Sta-Hi's previously developer Master Trimmer, a curved mat registering and trimming machine. However, it also has other applications in the Graphic Arts field where it may be used independently, it is pointed out.

Through the courtesy of the Milwaukee *Journal* a machine has been set up in that newspaper's stereotype department and will be available for working demonstrations to ANPA Conference members who make arrangements at Sta-Hi's exhibit booths in Milwaukee Auditorium.

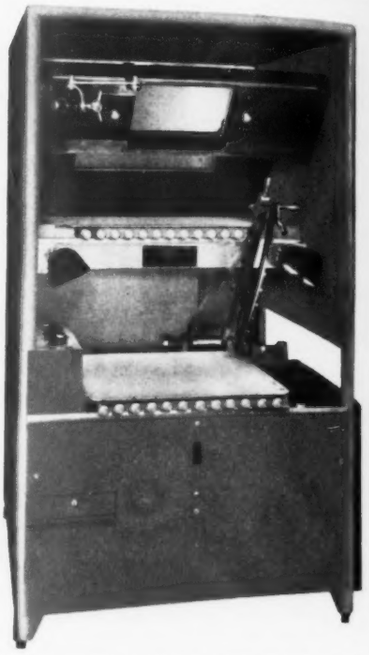
The Sta-Hi Master Matcher is a machine in which any two color mats in the set can be compared directly to determine the accuracy of register of the impressions and to check the accuracy of all register marks. If the impressions can be brought into satisfactory register and the original register marks are found to be inaccurate, means are provided to make new and accurate register marks outside of the printing area.

Any number of mats or similar material may be registered in this manner. Mats may be compared with each other as well as proofs. The only requirement is that each set of material must be all positives or all negatives.

In processing a set of mats, the key mat is placed face up on the lower platen and its image aligned with the images of lines scribed on the upper platen so as to center the printing area on the plate to be cast. The vacuum valve in the lower platen is then opened to hold the mat securely. Two holes are then punched in the mat outside the casting area, using a hinged punch holding arm located at the right of the lower platen. These holes are punched so as to align the mat in the same relative position on the upper platen. The vacuum is then released and the key mat is transferred to the upper platen, the punched holes being placed over corresponding pins in the upper platen. The vacuum valve in the upper platen is then opened, causing the mat to be held flat and securely.

Each of the other mats in the color set is placed on the lower platen in turn and its image is aligned with the image of the key mat, an optical system allowing the observer to view superimposed images. The mat is moved into best register position, vacuum is applied to hold it securely, and if necessary or advisable, new register marks are made.

The preferred method is to put new register marks on all mats. Since these marks are placed on the mats from the same marking device, furnished with the



machine, they will be identical for this set or any other set of mats. The projectors on the Master Trimmer can be left pre-set and all mats will be trimmed to snugly fit the casting box so that plates can be cast in close register.

The Master Matcher also greatly simplifies and expedites the process of patching and registering less than full page syndicate mats into full page edition mats, the manufacturer points out. This is done by placing a section of the key mat on the lower platen with the edge to be joined to another sectional mat extending over a cutting knife, located next to the hinged punch holding arm. The mat section is positioned with the image of the scribed lines on the upper platen. This section of mat is then trimmed, punched and transferred to the pins on the upper platen, where it is again held by vacuum. Each of the other color partial page mats is brought into register with the key mat, trimmed and punched.

Then the section of the key mat that is to be joined to the first section is placed on the lower platen with the edge that is to be joined protruding over the cutting edge. Each mat in this set is trimmed and punched as before. The two partial mats to be printed in the same color are then placed on a matching fixture, which is an integral part of the machine, and taped together. This fixture consists of a steel plate with four pins accurately located so that when one partial mat is placed on two of the pins and the other partial mat is placed on the other two pins, the trimmed edges will match perfectly and maintain the register. Any number of mat strips may be joined in this manner to make up a full page. When the full pages are made up they are placed in the Master Matcher as described before, and register marks are applied for use in the Master Trimmer. Please mention PEE No. 636 in your request.

(*Continued on Page 32*)

BACK OF every pound of MORRILL ink are those valued ingredients — quality and experience gained from years of research and manufacture. This means *ink insurance for pressmen* because they can count on MORRILL newspaper inks to be uniform in consistency and press performance.

Every MORRILL representative is a trained ink man at the service of pressmen in publishing plants throughout the country.

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assures a constant supply of web press and comic colors, as well as newspaper black inks. A fleet of high-powered trucks serve as connecting links between our distribution centers and your plants.

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Specify MORRILL newspaper inks and you'll have the best inks right on time to protect your production schedule.

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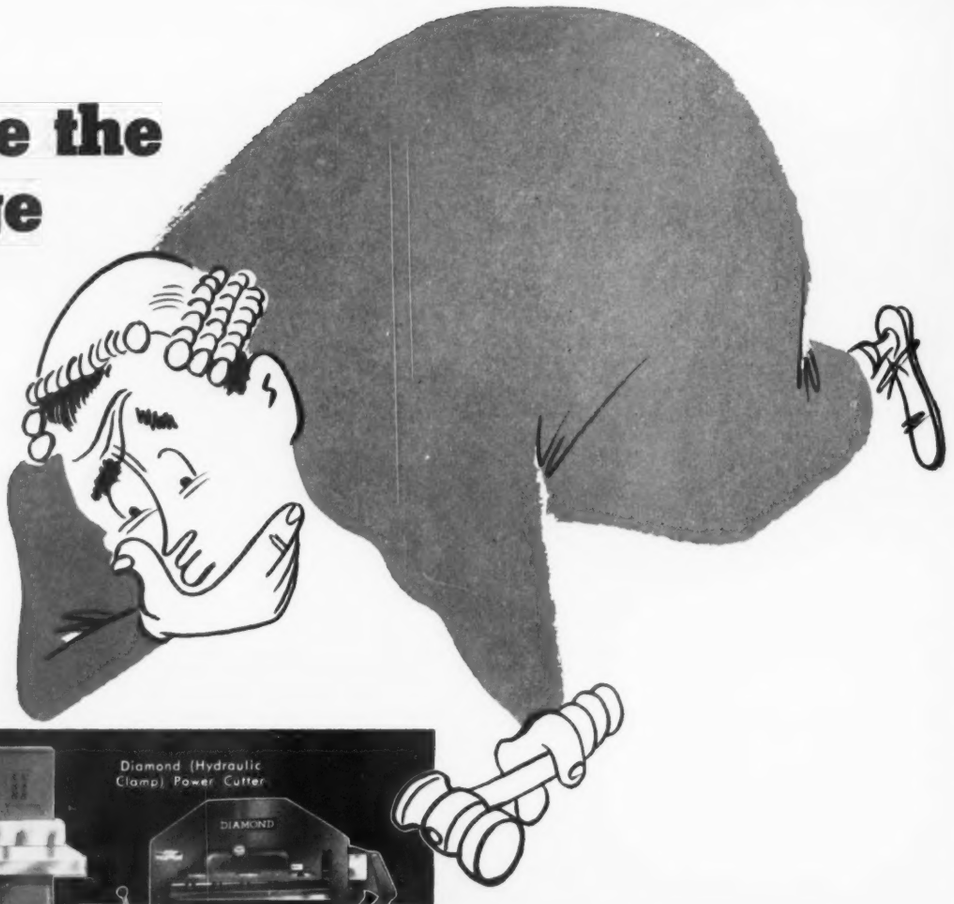

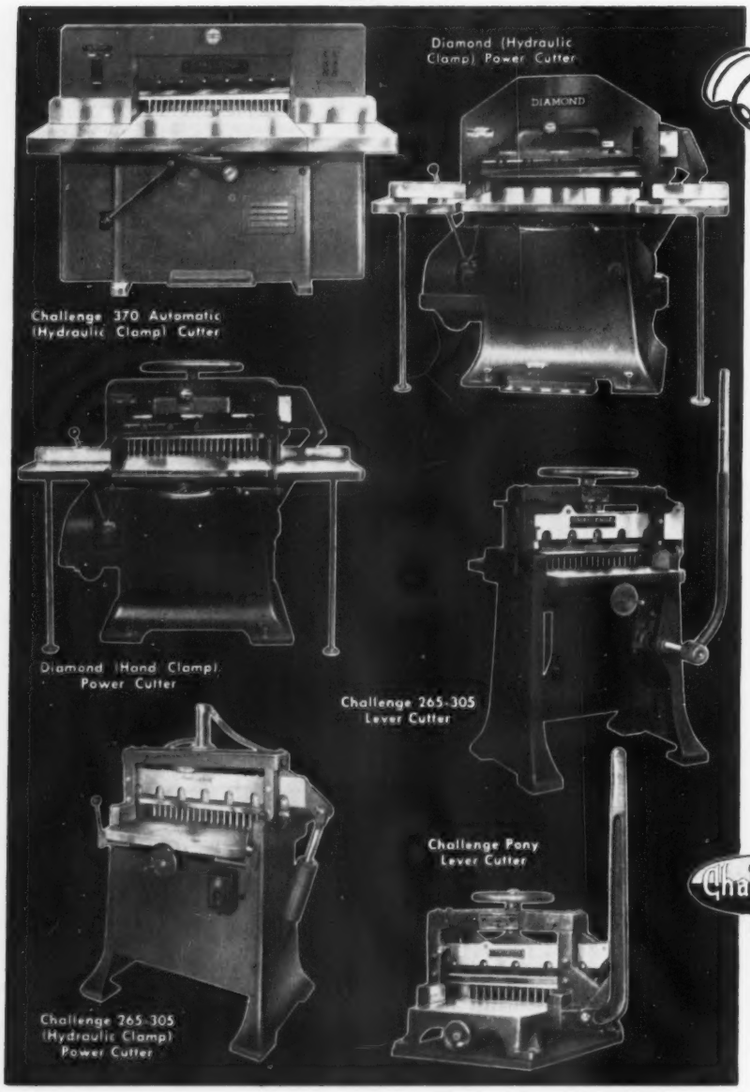
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Make your first decision in favor of ***Challenge*** — your second, the selection of the cutter that best fits your particular needs.

There are eleven styles and seven sizes ranging from lever cutters in bench and floor models . . . to power cutters with hand or hydraulic clamp. Each of these paper cutters has been perfected by Challenge to give the operator ***maximum protection . . . more working freedom . . .*** and ***precise control of cutting operations.*** Whether your shop is large or small — a Challenge cutter is a long term investment that pays off in less maintenance . . . more profitable cutting.

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DEALERS IN ALL PRINCIPAL CITIES

for the

FIFTH

Consecutive Year

the AYER Cup goes to a Newspaper that uses BURGESS MATS

Congratulations to

The Washington (D. C.) Evening Star

Winner of the 1953 Award

• The Washington Evening Star was awarded the prized F. Wayland Ayer Cup for excellence in Typography, Make-Up and Presswork. The Evening Star was selected as the best of the 733 daily newspapers which entered the 23rd Annual Exhibition of Newspaper Typography. Every year since 1949 the Cup has been won by newspapers who are users of Burgess Mats.

Also—7 out of 9 Honorable Mentions this year go to BURGESS MAT USERS—The New York Times, Charlotte (N. C.) Observer, Washington (D. C.) Post, Providence (R. I.) Journal, Kingsport (Tenn.) Times, Rutland (Vt.) Herald, Norman (Okla.) Transcript.

We are indeed proud that so many leading newspapers *large* and *small*—including the award winners—depend on Burgess Stereotype mats!

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats

FREEPORT, ILLINOIS

A Laboratory Product
BURGESS Chrome MATS

We congratulate *the newspapers honored by the Ayer Award committee for excellence in typography, make-up and printing*

★ **WINNER OF THE AYER CUP:**
The Washington (D. C.) Evening Star

HONORABLE MENTION:

More than 50,000 circulation

★ First: The New York Times
★ Second: The Charlotte Observer
Third: The Washington (D. C.) Post

10,000-50,000 circulation

★ First: The Providence Journal
★ Second: Rutland (Vt.) Herald
Third: Kingsport (Tenn.) Times

Less than 10,000 circulation

First: Greenwich (Conn.) Time
Second: Norman (Okla.) Transcript
★ Third: West Lebanon (N. H.) Valley News

Tabloid: New York Daily News

★ **LONG-TIME USER OF HUBER NEWS INKS**

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HUBER PRODUCTS IN USE *SINCE 1780*

Spirally grooved plate cylinders with Claybourn patented register plate hooks. Quick-convenient lockup.

5 Colors

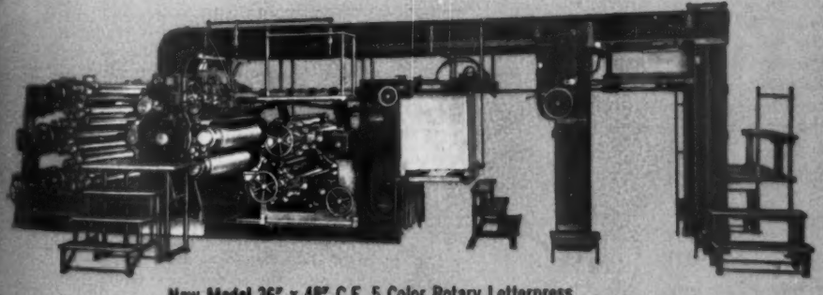
... one common impression cylinder

...ted Ink Distribution System; provides easy level adjustments for close ink control.

For real convenience and fidelity, nothing will please the commercial printer more than the newest 36" x 48" five-color Cottrell Rotary.

No transfer of sheets between colors, and an ease of makeready and inking that will make this press the idol of any plant.

Clients will be amazed with your ability to economically produce process as well as two and three color work with this same press. Additionally, the advantages of having a fifth color will prove of great value.



New Model 36" x 48" C.F. 5 Color Rotary Letterpress.

COTTRELL ... *COLOR PRESS PIONEERS*

C. B. COTTRELL & SONS COMPANY
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Milwaukee, Wis.

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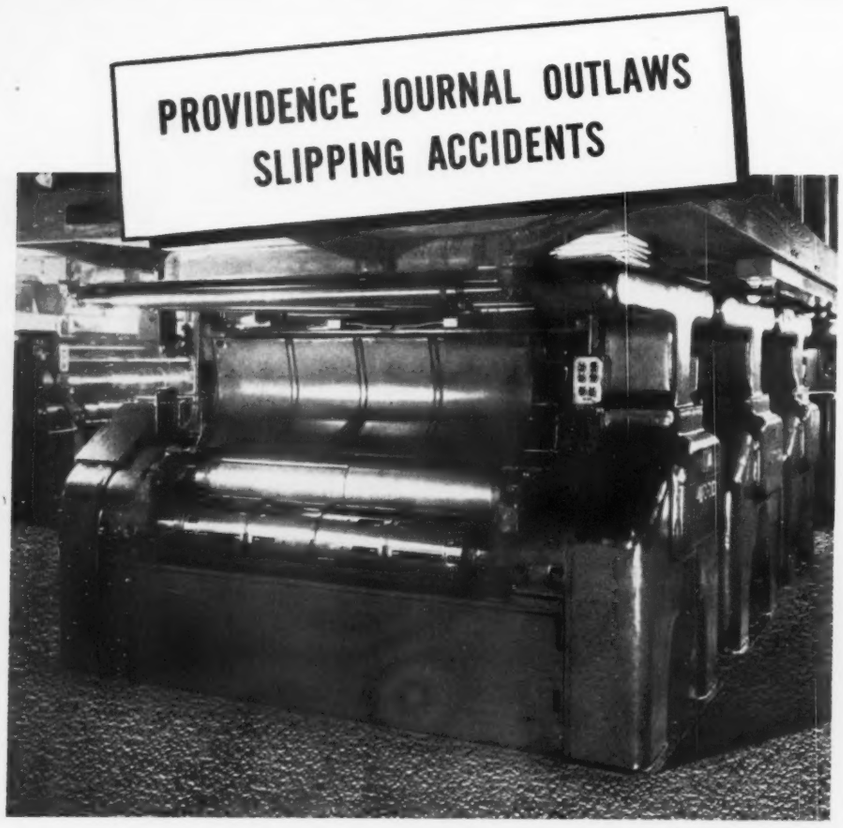
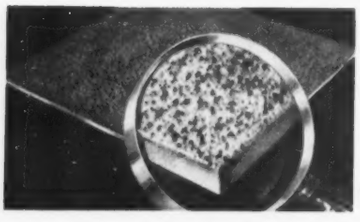


with Floor Plate That Pays for Itself

A new kind of foot-safety is paying double dividends in the Providence (Rhode Island) Journal's pressroom. It's ALGRIP Abrasive Rolled Steel Floor Plate — the non-skid accident-preventer that pays for itself in lower insurance premiums.

Wherever you install ALGRIP, accident rates *and* insurance rates are bound to tumble. The reason is ALGRIP's unique construction—abrasive "grinding-wheel" grain rolled densely and deeply into steel plate's upper portion. This rough, tough abrasive puts *hundreds of tiny safety brakes in every footstep*—makes it virtually impossible to slip on ALGRIP, even on steep inclines! Results: Higher morale, higher production, lower insurance premiums.

Get these *savings from safety*, starting today. Take a moment to request our new ALGRIP Foot-safety Booklet, AL-33. Also, ask any questions you wish; we'll be glad to answer them.



RECENT INSTALLATIONS—Here are a few recent installations: Plain Dealer, Cleveland, Ohio • Seattle Times, Seattle, Washington Beaumont Enterprise & Journal, Beaumont, Texas • St. Petersburg Times, St. Petersburg, Florida • Washington Times Herald, Washington, D.C. • Also many other, names furnished upon request.

◀*Magnification shows even distribution of abrasive grain.*

THERE'S NEVER A SLIP ON A. W. ALGRIP

Over 125 Years of Iron and Steel Making Experience

ALAN WOOD STEEL COMPANY

Conshohocken, Pa.

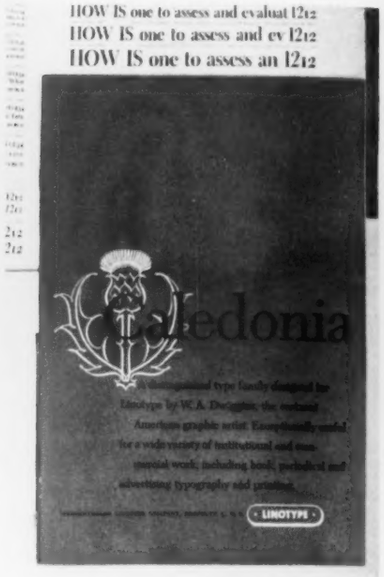
OTHER PRODUCTS: A. W. SUPER-DIAMOND Floor Plate • Plates • Sheets • Strip • (Alloy and Special Grades)

Equipment & Supplies

(Continued from Page 26)

Caledonia Specimen Booklet

MERGENTHALER Linotype Co. has issued a 36 page specimen booklet featuring Caledonia and Caledonia Bold, each with accompanying Italics, in their full range of sizes. Sample ads, spreads, programs and an assortment of promotion pieces are included, illustrating the use of these faces. Also in the booklet are showings of Caledonia Linotype fonts previously available as one-letter faces only. These include the duplex display sizes of 18 and 24 pt. in both the Caledonia with Italic and the Caledonia Bold with Italic series.



The Caledonia type family was designed by W. A. Dwiggins for institutional or commercial work, and for book, periodical and advertising composition. The accompanying illustration shows the cover of the booklet together with part of one of the inside pages.

Caledonia's range is from 6 pt. through 24 pt. in the light and bold with italic. Caledonia Bold is available in one-lettter matrices from 16 to 36 pt., including the in-between sizes. Small caps are available in both light and bold weights in the italic up to 14 pt. For text-book use, Caledonia is available with the Bold in two-letter matrices in a 6 to 14 pt. size range. Copies of the specimen book are available by referring to PEE No. 642 in your letter.

Reflection Meter Bulletin

A REVISED bulletin on Photovolt Corporation's Photoelectric Reflection Meter Model 610 is available. The meter is designed for measuring the diffuse reflection of surfaces as an indication of color or degree of whiteness. Its applications include measuring printing ink on paper. Sponsor states recently developed accessories for the instrument

(Continued on Page 38)

THIS SLITTER and REWINDER

will DYE for you!

give your customers colors your competitors can't supply!

The Model 34 Dutro ColorVerter – slits – rewinds – colors paper in one fast operation.

"On the job" conversion! Helps reduce inventory – speeds service – increases sales.

Write for informative booklet...
See for yourself the wide range of colors available with the Dutro ColorVerter.

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65 years

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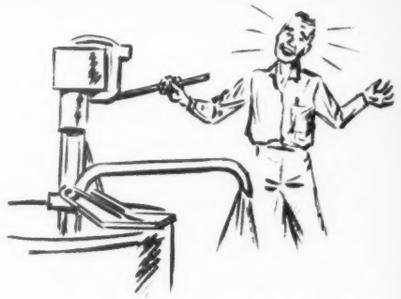

But THIS!

INTERNATIONAL ELECTRO-PRESSURE

Automatic Metal Pump

FOR CONTROLLED CASTING FLAT, TUBULAR, SEMI-CYLINDRICAL, STEREOTYPE PLATES

1. Uniform Pressure delivery which may be regulated to suit.
2. Uniform speed of delivery, unchanged in its full travel from the pot to the box which pours the alloy in a solid steady ribbon-like flow that displaces the air properly.
3. Uniform and controlled alloy delivery eliminates the need for individual judgment and tolerances of time and temperature.
4. Swivel pipe nozzle and spout serving a multiple of casting units.
5. Direct draw from the main pot.
6. Proper agitation, insuring the balance of the alloy as intended.

INTERNATIONAL NEWSPAPER SUPPLY CORP.
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In addition to these features, you are assured of utmost safety through the elimination of hazards encountered with hand casting operations and hand pouring methods. Saves you fuel, metal, effort and time up to 30% and 35%. Produces the smoothest cast surfaces and the densest cast today, in less time, less effort and less cost than is believed possible with any other casting method available.

Visit our exhibit at the A.N.P.A. Conference, Milwaukee Auditorium-Arena June 15, 16, 17 and 18, 1953. Booth 55.

For Maximum Shrinkage Satisfaction...

BEVERIDGE MATS

Accurate shrinkage is one of the greatest problems facing newspaper executives today. Stereotypers are being called upon to exert their maximum skills to meet shrinkage requirements. Whether the demand is for low or high shrinkage, Beveridge Mats in all sizes for curved newspaper work, multi-cast work and commercial flat work are best for uniform and dependable results. If you are not using Beveridge Mats, we suggest you try them immediately. Send us your page form size and shrinkage requirements and let us ship you an order. We guarantee that you will find them giving you maximum shrinkage satisfaction.

the New Products Division of

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All mats available for immediate shipment plus a complete line of stereotype supplies and equipment

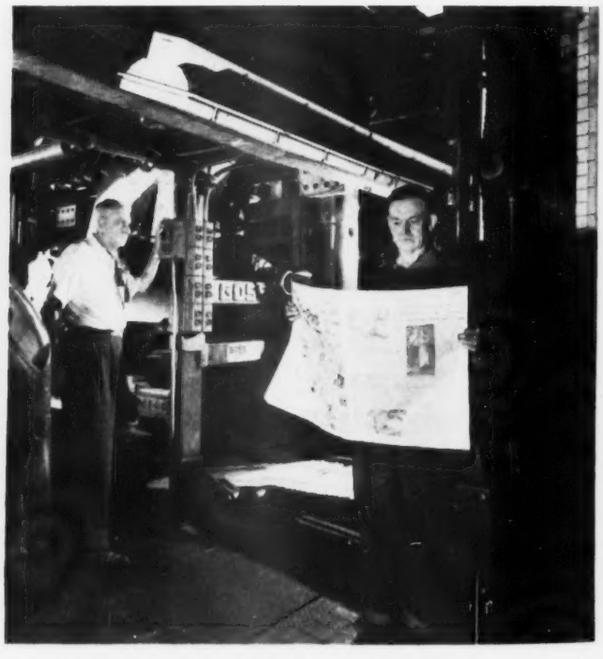
60 years' experience in making precision papers is embodied in Beveridge Dry Mats

DEPENDABLE POWER provided by G-E electronic press drive on Goss Headliner permits Oklahoma Publishing Company to run editions of *Oklahoma City Times* and *The Daily Oklahoman* at average of 60,000-pph, when required in daily production.

Oklahoma City Times runs 81,000

FULL SPEED PASTES are no problem—even at 60,000 pph—because Wood Automatic Autopasters powered by G-E Thy-mo-trol* Drives provide positive splices regardless of press speeds.

*Reg. General Electric Trademark.



PRODUCTION CONTINUITY is aided by dependable control; G-E drive eliminates threading motors, gears, clutches, and mechanical brakes, greatly reducing mechanical maintenance.

RUGGED, LONG-LIFE G-E power and control equipment is housed in these compact cubicles for easy accessibility; simplified control has long-life tubes, contains no power contactors.

INDIVIDUAL G-E DRIVE MOTORS for each unit are press-mounted. Rated at 50 hp, they provide plenty of smooth, dependable power for high-speed newspaper production.

84-page final edition in 1½ hours

G-E electronic drive powers new Goss Headliner press to meet 60,000-pph pace for all editions at Oklahoma Publishing Company

Mr. L. S. Vance, Business and Production Manager of the Oklahoma Publishing Co., publishers of *The Daily Oklahoman* and *Oklahoma City Times*, says of their new G-E electronic press drive: "The ease of installation and start-up met all our specifications. We started up on time because all the equipment arrived on the promised delivery dates.

"Recently, we were running a few minutes late and needed 57,000 papers during the next hour. We ended up with a ***net*** production of 57,000 in 56 minutes —and we hit the street on time. The presses actually exceed 60,000-pph many times during daily production." The Oklahoma Publishing Company editions now start later and finish earlier using one press with G-E electronic press drive than they did previously using two presses.

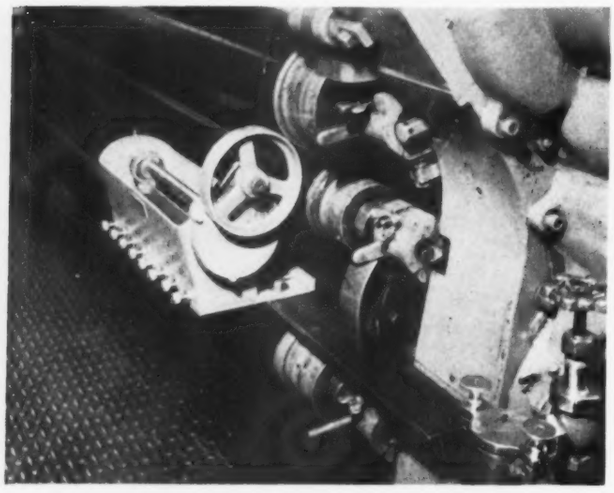
Dependable power, smooth acceleration and braking, as well as dependable service, are only a few of the many advantages of low-maintenance G-E electronic press drive. For complete information contact your nearest General Electric Apparatus Sales Office or write for Bulletin GEA-5523 . . . today!
General Electric Co., Schenectady 5, N. Y. 653-26

Engineered Electrical Systems for Newspaper Plants

GENERAL ELECTRIC

"CAPCO" Portable Ink Fountain

This unique portable ink fountain for color on rotary presses is being adopted by wise mechanical executives and publishers. The Capco Portable Ink Fountain makes color available on most any page . . . affords pressroom savings up to 75% . . . increases production . . . with absolute safety and reliability.



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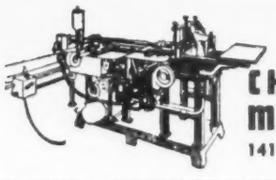
MASS MAIL

The CHESHIRE Way*

● Automatically attach addressed labels at operating speeds up to 18,000 per hour. Faster, more accurate than any other method, hand or machine. Opens mail room bottlenecks, maintains schedules, reduces subscription complaints.

100,000,000 mailings per month on Cheshire machines. Earlier models still operating after 24 years' constant use.

* An addition to, not a replacement of, your present addressing system. Apply roll strip or continuous pack form labels.



CHESHIRE MAILING MACHINES, INC.

1415-25 W. Altgeld Street, Chicago 14, Ill.

Equipment & Supplies

(Continued from Page 32)

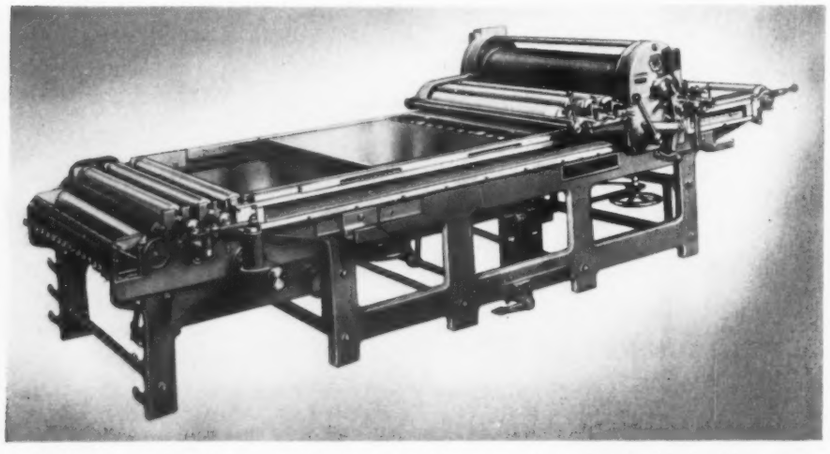
are listed for the first time in the bulletin. The meter consists of two units: (1) The instrument proper which contains the indicating meter, power supply and controls, and (2) the search unit which is comprised of the light source and photocells. Color measurements, paper tests and color printing control are among the informational sections included in the bulletin. Copies may be obtained by mentioning PEE No. 638 in your request.

Offset Proofing and Specialty Production Press

THE S&S Flat-Bed Offset Proofing Press is designed for production runs of metal name plates, printed electrical circuits, and short runs of multicolor posters, displays and proofing work, according to Amsterdam Continental Types & Graphic Equipment Inc. Paper, metal, plastics, masonite, textiles and similar materials can be printed on the press. Printing bed of the press can be raised or lowered ¾ in.

The S&S machine is available in the following three models: DU-FA, equipped with motor driven cylinder carriage, automatic inking and dampening system; DU-MO, equipped with motor driven cylinder carriage, hand inking and dampening system; and DU-HA, equipped with hand drive, and hand inking and dampening system.

The presses are also available in five sizes with max. printing areas as follows: 17¼ in. by 24⅜ in., 24⅜ in. by 34⅝ in., 29½ in. by 41¼ in., 35⅛ in. by 50⅜ in., and 39¼ in. by 55⅛ in. Speed range extends from 230 to 360 i.p.h. depending upon size and model press. Further information may be obtained by mentioning PEE No. 644 in your request.



The S&S Flat-bed Offset proofing Press will print on a variety of materials besides paper, such as wood, metal sheets, plastics and similar materials, states Amsterdam Continental Types and Graphic Equipment Inc.

Hobbs Alquist Winder

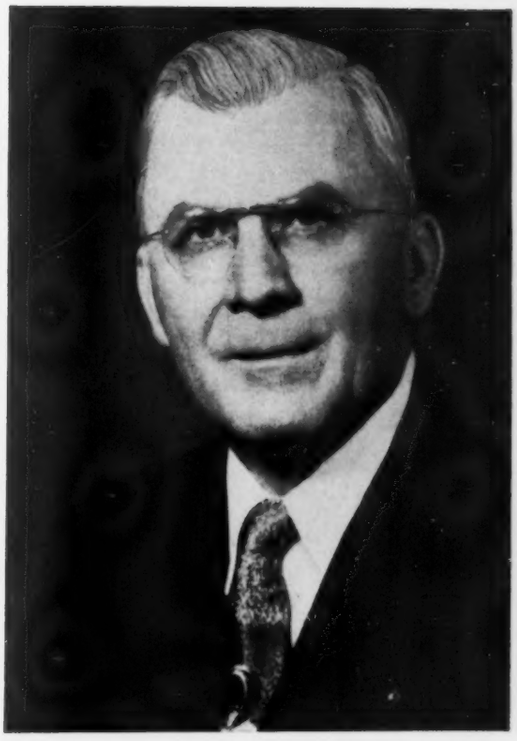
ELECTRICAL control of web tension which remains constant from start to finish of the winding operation is claimed by Hobbs Mfg. Co. for the Alquist Winder. The machine is designed for winding paper, plastic, foil, textiles and similar materials. The small unit is constructed with the electric motor and housing attached at one end of the winding shaft. A control box or panel may be hung on the wall or some other convenient place.

The Alquist Winder permits either right hand or left hand winding. It is independent of mechanical drive from the equipment to which it is attached, being operated through its own electric power. Hobbs states the tension can be set at the start of the winding operation, and it is maintained automatically at that tension from the core to the circumference of the roll.

Additional information, if desired, may be obtained by mentioning PEE No. 645 in your request.

(Continued on Page 41)

Publisher tells how Wisconsin Weekly Solves Problems with TELETYPESETTER



Mr. T. C. Radde, publisher, Sparta (Wis.) Herald

Never considered automatic typecasting for your weekly? Then read what T. C. Radde, publisher of the Sparta (Wis.) Herald has to say about his paper's experience with Teletypesetter.

"We installed Teletypesetter five years ago, and have found it a great help. We wouldn't be without it because it has done, and still is doing a great job for us," Mr. Radde declared.

"Before we installed the machine we had a heck of a time getting our type set and we used to have an operator work three nights a week. Since we have installed the TTS, we no longer have the difficulty because the machine will knock out 16 to 20 galleys of news type in an eight hour day—and will do it with a minimum of errors, maybe five or six to the galley," the Wisconsin publisher said.

"The machine keeps the composing machine running full speed just as long as there is tape." Mr. Radde added, "We have found that anyone can operate it. In fact, all the operator of the typesetter has to do is put in the tape and let 'er go. I would say that in an eight hour day, it will take about an hour of someone's time for emptying the galley, fixing distributor stops and making minor adjustments."

"We have trained two girls on the perforator unit. The one we have at the present time thinks nothing of batting out 500 lines an hour and does it with very few errors.

"Knowing what I do today about operating one of these units, I would buy another if we could use it. The TTS, in my opinion, is the answer to the problem of setting a lot of type—even in a small weekly such as ours with 4,351 circulation," said Mr. Radde.

Want to know more about how Teletypesetter can help cure your type production headaches? Just fill in the coupon below.

TELETYPESETTER

TELETYPESETTER CORPORATION, DEPT. PE-6
2752 N. CLYBOURN AVENUE
CHICAGO 14, ILLINOIS

Gentlemen: I'd like to know how Teletypesetter can help me turn out more type in less time. I'm interested in newspaper composition_____ commercial composition_____

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____

What would you look for in a cylinder press?

Mr. David McKinney, president of the H. David McKinney Co., graphic arts consultants, has written numerous technical articles for the major printing publications.

Here's Mr. David McKinney's answer to that question:

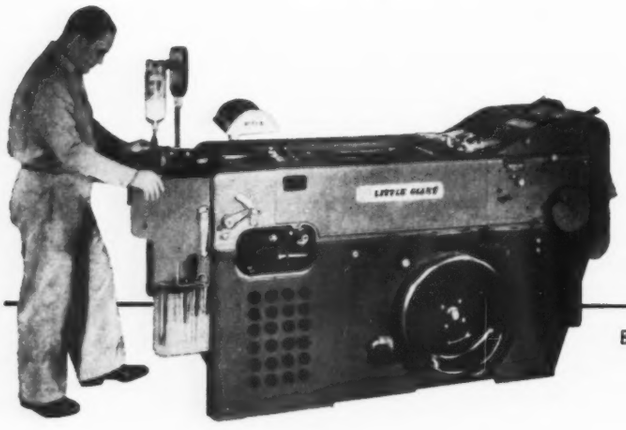
"I would look for versatility; simple adjustments throughout; an ability to handle a full range of stocks; precision; and many other things; but if I were looking for quality, too, I'd insist on adequate coverage. My presses would have the best distribution I could buy."

And here's how the Little Giant measures up to Mr. McKinney's checklist:

Any user will tell you that you can't beat a Little Giant for versatility, simple adjustments, precise register, and handling a full range of stocks.

But where the Little Giant *really* excels is in providing full form coverage. No other press in its size range has three form rollers *fully* covering the form. These, *plus* two gear-driven vibrator rollers, two distributor rollers, and an additional gear-driven vibrator, give more distribution by far than any other press in its size range.

The Little Giant is one of the three leading presses in the small size range. Check the others, too—on the same points we've listed. When you compare all three for over-all performance, we honestly believe you'll cast your vote for an ATF Little Giant. Write today for complete information. AMERICAN TYPE FOUNDERS, *a subsidiary of Daystrom, Inc.*, 200 Elmora Avenue, Elizabeth, New Jersey.



Type faces shown are: Tower, Stymie Medium, Century Bold Italic, Century Expanded, Alternate Gothic #2.

ATF

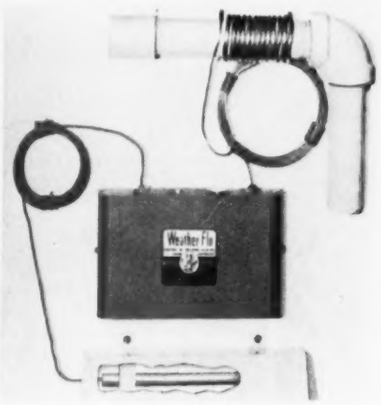
BETTER, MORE PROFITABLE
PRINTING FROM THE WIDEST LINE OF
PROCESSES—GRAVURE . . . LETTERPRESS . . . OFFSET

Equipment & Supplies

(Continued from Page 38)

Temperature Controller

AN indoor-outdoor building heat controller called Weather-Flo has been developed by Automatic Devices Co., Inc. In operation, an outdoor thermostatic bulb measures weather conditions



and, as outdoor weather changes, resets a thermostat that measures and changes the temperature of the water being circulated in the heating system. Installation is made by wrapping a 6 ft. length of flexible soft copper tubing around a hot water pipe in the heating system to measure the temperature of water being circulated. The tubing is connected to the Weather-Flo control unit, as is the outdoor thermostatic bulb. In writing for further details, please mention PEE No. 641 in your request.

Steel Casters in Two Sizes

BASSICK COMPANY has added 5 in. and 6 in. sizes to its 68 Series Steel Casters equipped with double ball-bearing swivel. Designed for the support and movement of equipment, it is claimed

the new casters can support loads up to 1400 lbs. Case-hardened raceways are a feature of the caster. Both sizes are available with the Bassick Baco soft rubber tread and Atlasite solid composition molded wheels with 1½ in. tread widths. Roller bearings and thread guards are standard in each size. Specially designed rigid casters are also available. More information may be obtained by mentioning PEE No. 652 in your request.

(Continued on Page 42)

new Hamilton
ad assembly cabinet
CUTS FLOOR SPACE
1/3
Compact, efficient design eliminates costly wasted time

SAVES SPACE!

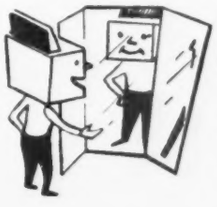
Floor space wasted is only overhead. Compact but complete, Hamilton cabinets, properly arranged, occupy ⅓ less area than old style units. You gain valuable floor space.

SAVES TIME!

New Hamilton ad assembly cabinets put *all* materials at hand—*in front*—within easy reach of operator. Expensive walking and searching are eliminated.

HOLDS MORE!

Modern design gives this cabinet greater storage capacity. Accommodates full length strip and base material. Generous space for cut-to-measure material and galleys of ad composition.



TAILOR MADE!

Six standard models hold a variety of cases, racks and bins, plus Hamilton working tops. You may, however, design your own cabinet from a combination of standard units—at no extra cost.

Hamilton PEAK PRODUCTION equipment

HAMILTON MANUFACTURING COMPANY
TWO RIVERS, WISCONSIN

See these new cabinets now and learn why: "Hamilton composing room equipment gives good men a chance to do good work."

the new Hamilton Ad Assembly Cabinet will be on display at the A.N.P.A. Mechanical Conference June 14-18, Milwaukee, The Auditorium, Booths 41-44

Equipment & Supplies

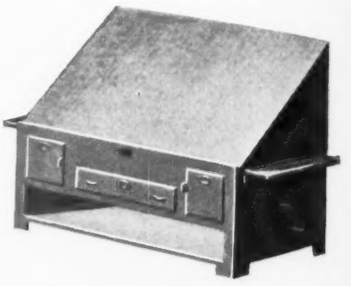
(Continued from Page 41)

Device Aids Feeding

A DEVICE designed to keep lightweight paper from buckling and heavy stock from bouncing when it meets the guides on letterpress and offset presses and folding machines, has been reported by Fernrae Products Co. To be known as the Flipper, the attachment is said to also aid register and reduce paper spoilage by better feed control of the sheet. Made of blued spring steel, Flippers are available for any size press or folding machine. They are attached by snapping on to the feed board bar. Adjustments for tension and alignment are made by finger pressure. Additional information may be obtained by mentioning PEE No. 632 in your request.

Makeready and Inspection Table

A MAKEREADY and Inspection Table for the folding box and printing industries has been developed by Bar-Plate Mfg. Co. Constructed of 16 ga. steel, the table is designed with a properly sloped working surface. Two built-in cabinets in the table are for use by individual pressmen and are equipped with hasps and file card holders. A center drawer is provided for material storage. An open shelf at the bottom of the table is also used for storage. On each side of the table is a tray for placing tape, pencils, tools, etc. Specifications:



front height, 37 in.; rear height, 60½ in.; working area, 45½ in. by 66¼ in.; floor area, 40 in. by 70 in.; net weight, 450 lbs. Casters and fluorescent lighting are optional equipment. Please refer to PEE No. 631 when asking for additional information.

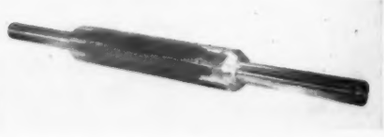
Users Claim Savings Pay For
MORRISON SLUG STRIPPER
In 2 Weeks
This modern, exclusive composing room equipment makes it easy to strip the face of any slug or type character to the exact thickness needed for base heights. You save time by floating lines or making type corrections without mortising into the base. Get your order in quickly for prompt delivery. Write now for the complete money-saving story, and list of users.
The Morrison Company
125 WEST MELVINA STREET • MILWAUKEE 12, WISCONSIN

Magic Wand Neutralizer Bulletin

AN 8 PAGE illustrated bulletin, 8½ in. by 11 in., is available to those interested in the neutralization of static electricity. The bulletin has been published by Herman H. Sticht Co. Inc. In the bulletin are discussed the different methods for neutralizing static including function, method of operation and application of the Magic Wand Induction Neutralizer to printing and fabricating machinery. Brief description as to how electrified stock is neutralized is included. A copy of this bulletin will be sent to you by mentioning PEE No. 650 in your request.

Air Loaded Core Shaft

AN air loaded expanding core shaft is claimed by Paper Converting Machine Co. to reduce the time necessary to insert a shaft in a roll of paper and also prevents damage to the roll during insertion. The device is known as the Aero-Shaft and consists of a 2 in.



o.d., 1 in. i.d. steel tube, the length of the shaft. Drawn over the steel tube is a Neoprene rubber tube held at each end with two hose clamps. A set of eight spring steel ribs held in place by steel end collars having dove tail slots, completes the unit.

The shaft is inflated by applying air pressure at about 35 lbs./sq. in. through an ordinary automotive type air valve mounted in the end of the Aero-Shaft. The valve is protected by a heavy steel counterbored end plug.

Sponsor claims factory tests show that Aero-Shaft is capable of holding rolls of stock 40 in. diam. under tension of 5 lbs./in. across the web without slippage between core and shaft. Because of its grip, it is said there is less chance of web breaks caused by core slippage.

It is further claimed the shaft can be put in and taken out of a core quickly.

(Continued on Page 129)

THE MILWAUKEE JOURNAL

Installs a 1,000 Ton LAKE ERIE DIRECTOMAT

The Milwaukee Journal has an outstanding reputation among newspaper mechanical men, publishers, advertisers and agencies for the excellence of its printing, both black and white and R.O.P. color. Close team work by all departments, constant improvement of equipment and progressive methods are responsible.

Direct pressure stereotype matrix molding has been recognized for nearly 15 years at the Journal as one of the key steps responsible for their final printed results. So we were naturally pleased and proud when their desire for the latest in equipment led them to choose the 1,000 Ton Lake Erie DIRECTOMAT for this important job in their plant.

● More Lake Erie DIRECTOMAT direct pressure Matrix Molding Presses are in use today than all other makes combined.

This Lake Erie 1,000 Ton DIRECTOMAT Stereotype Matrix Molding Press in operation at The Milwaukee Journal features:

- Compact streamlined design: 70″ x 72″ floor space. Only 5′ 5″ high.
- 34″ x 26″ work area (will take double-page spread).
- Oversize 29″ diameter ram.
- Fingertip pushbutton controls.
- Independent high and low pressure controls with precision electric timing.
- Automatic "two-stage" molding with adjustable speed of pressure build-up.
- Precision top and bottom platen temperature controls.
- Vacuum system for faster, more uniform drying of color mats.

DIRECTOMATS have been chosen for stereotype matrix molding in a good many top-flight newspaper plants. It costs nothing to *look at the evidence*, so please write us and ask for Bulletin 349.

At the right is a 1,000 Ton Lake Erie DIRECTOMAT equipped for double-sided operation as just completed for the Chicago Tribune.

Leading manufacturer of hydraulic presses—3,500 designs from 5 to 23,000 tons capacity—stereotype molding... plastics molding ...laminating...die sinking...metal working ...forging...metal extrusion...waste wood and plywood...rubber vulcanizing.

LAKE ERIE ®
DIRECTOMAT ®

LAKE ERIE
ENGINEERING CORP.
BUFFALO, N.Y. U.S.A.

LAKE ERIE ENGINEERING CORP.

General Offices and plant:
568 Woodward Avenue
Buffalo 17, N. Y.

SIMPLE . . . SURE . A

GOSS *IMPROVED* REEL-TENSION-PASTER

SIMPLE

Only one set of controls; just push three buttons to splice web—(1) Position . . . (2) Pre-Drive . . . (3) Paste.

SURE

Exact, uniform tension at all times. Merely set the desired tension from the master control station on the press unit, and proper tension will be maintained at all speeds, under all fluctuations in operating conditions.

AUTOMATIC

Full push-button control. No manual operation. The Goss web-splicing mechanism performs the complete pasting operation automatically, without tension variation and without reduction in speed.

PERFECT ALIGNMENT

The Goss self-aligning Reel prevents side jumps during the splicing cycle, keeping the paper rolls absolutely parallel with the printing cylinders.

. . . and ACCEPTED

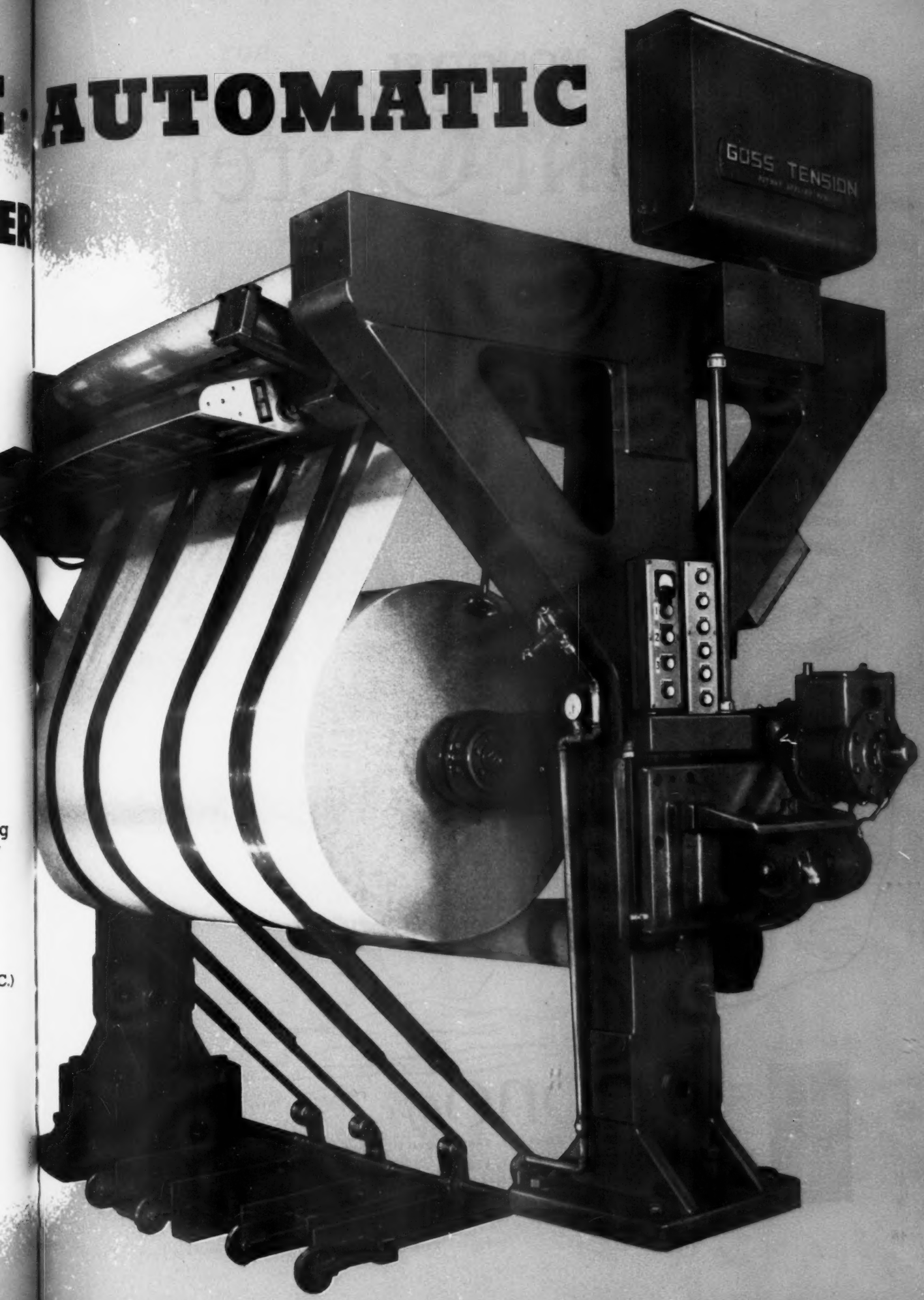
Goss Reels—Tensions—Pasters are being installed at the *New York News, Miami Herald, Detroit Free Press, Columbia* (S. C.) *State* and *Record*, (Denver, Col.) *Catholic Register*. Goss Reels and Tensions are operating at the (Springfield) *Illinois State Journal and Register, Cedar Rapids* (Iowa) *Gazette, Youngstown* (Ohio) *Vindicator, Baton Rouge* (La.) *State Times* and *Advocate, Shreveport* (La.) *Journal*.

THE GOSS PRINTING PRESS COMPANY
1535 S. Paulina St., Chicago 8, Ill.
Goss Printing Press Co. Ltd., Preston, England

it's **GOSS** *again*

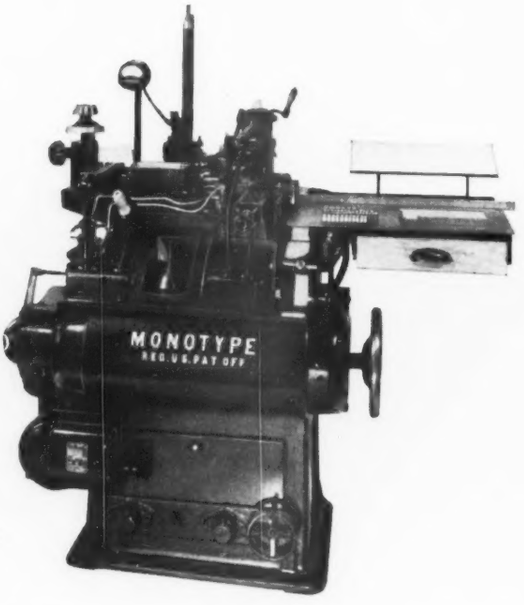
. . . the BEST self-aligning reel, automatic tension and web-splicing mechanism . . . for installation with the Headliner — Nation's No. 1 Newspaper Press.

AUTOMATIC



THE MONOTYPE
Giant Caster

proves that lines of display type can be set by hand in type from cases faster than by any other method



The Monotype Giant Caster makes type of uniform height-to-paper, clear and sharp of face for good printing, and densely cast to resist the pressures of all printing, plating, and mat-making processes. The typographic resources available to Monotype Giant Caster users include all Monotype cap and lowercase fonts, figures and points in all available sizes from 14 to 72 point and 84 point title line, special ornaments and corner-pieces from 14 to 72 point, special full-face figures and fractions from 14 to 108 point, special superior figures in sizes up to 72 point, and quads and spaces from 14 to 72 point. Dual Purpose Mold casts solid base in two accurate heights for (1) use under zinc or copper photo-engravings, and (2) mounting stereotype and electrotype shells.

Metal furniture from 14 to 72 point sizes can be made from 1 pica up to whatever length is desired. Full information will be sent gladly on request.

This advertisement set in Monotype Caslon, No. 437, 337I and 337E, Monotype 20th Century Extra Bold and Monotype 20th Century Medium.

THERE IS ONLY ONE **monotype**

LANSTON MONOTYPE MACHINE COMPANY, 24th at Locust St., Philadelphia 3, Pa.

BRANCH OFFICES: *116 Spring St., N. W., Atlanta 3, Georgia • 170 Summer St., Boston 10, Massachusetts*
216 W. Jackson Blvd., Chicago 6, Illinois • 441 Lexington Ave., New York 17, New York
55 New Montgomery St., San Francisco 5, California
IN CANADA: *Monotype Company of Canada, Limited, 77 York St., Toronto 1, Ontario, Canada*

FOR

faster Production

OF BETTER PRINTED NEWSPAPERS

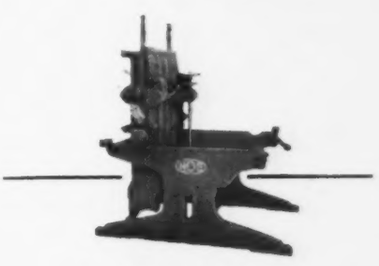
It is not only the press, but also the plate-making equipment that determines the speed and quality of newspaper production.

So it is natural that Hoe — oldest press manufacturer in America — should also make the world's largest line of electrotyping and stereotyping machines.

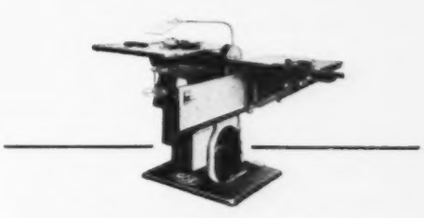
Leading newspapers throughout the Americas rely for quality results on Hoe plate-making equipment... Monarch Matrix Rollers, Precision Shavers, Radial Arm and Curved Plate Routing Machines, and Plate Curving Machines.

Other widely used Hoe units include Hydraulic Matrix Moulding Presses; 5-column and 8-column Speed Moulds for Flat Casting; Curved Casting Moulds; Straight-line Flat Routers; Flat Bed and Curved Shaving Machines; Saw Tables and Monorail Trimmers; Jig Saws and Drills.

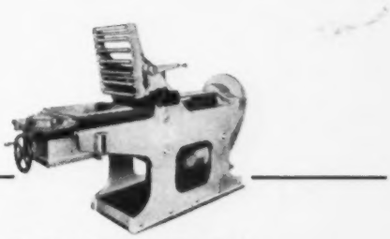
Monarch II Matrix Roller



Speed Mould for Flat Casting



Saw Table and Monorail Trimmer

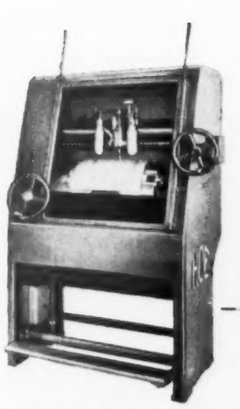


Precision Shaver for Flat Shaving

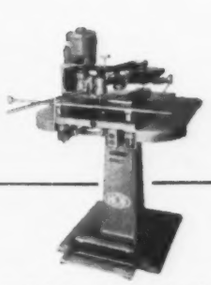
R. HOE & CO., INC.

910 East 138th Street • New York 54, N. Y.

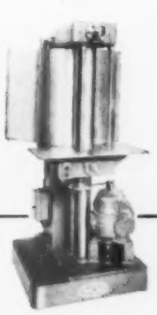
BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO
BIRMINGHAM • PORTLAND, ORE.



Curved Plate Routing Machine



Radial Arm Routing Machine



Vertical Plate Curving Machine

Hydraulic Matrix Moulding Press

Imperial

meets the *First* demand

"*Clean Etching*"

for Photoengraving Zinc

A short time ago we asked 137 individuals* to name the most desirable quality they expect in photoengraving zinc. 59 of these individuals immediately specified, "*clean etching.*"

And that's exactly what Imperial zinc delivers to you—a zinc that etches clean and fast without dirty bottoms.

With Imperial your etcher is assured of fast, smooth etching and clean bottoms on line cuts as well as halftones. For close register color work, the elimination of objectionable stretch and the ability to take re-etching are outstanding, additional characteristics.

Why not order a case of Imperial zinc today? You'll find there *is* a difference.

***THEY ASKED FOR:**

CLEAN ETCHING

SMOOTH FINISH

NON-BUCKLING

UNIFORM GRAIN

EASY ROUTING

MINIMUM STRETCH

IMPERIAL ZINC HAS 'EM ALL

Imperial **TYPE METAL COMPANY**

SERVING THE GRAPHIC ARTS *Exclusively*

PHILADELPHIA 34 • NEW YORK 7 • CHICAGO 50

Engraved on Imperial Zinc

Almost Everywhere...

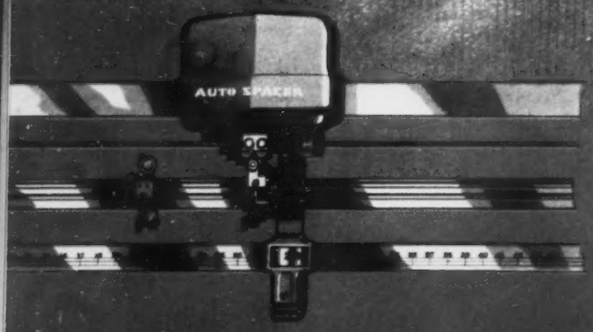
There is a Factory and *REGRINDING* Service Near You...

ATLANTA 274 Trinity Ave., S. W.	DES MOINES 1025 West 5th St.	KANSAS CITY 706 Baltimore Ave.	PITTSBURG 88 South 13th St.
CHICAGO 636 Sherman St.	DETROIT 4391 Apple Street	MILWAUKEE 3148 N. 31st	ST. LOUIS 514 Clark Ave.
CINCINNATI 1250 Elm St.	HOUSTON 2702 West Dallas Ave.	MINNEAPOLIS 900 South Third St.	ST. PAUL 318 Minnesota St.
CLEVELAND 1432 Hamilton Avenue	INDIANAPOLIS 629 S. Alabama St.	NASHVILLE 911 Berryhill St.	SPRINGFIELD, OHIO East and Harrison Sts.
DALLAS 1310 Patterson Ave.	KALAMAZOO 223 West Ransom St.	OKLAHOMA CITY 1607 N. W. 9th St.	TAMPA, FLA. 507 N. 22nd St.

ON THE WEST COAST:
Distributed by
THE CALIFORNIA INK CO., Inc.
Pacific Coast Sales Representative

ON THE EAST COAST:
Affiliated with
THE MORELAND CORPORATION
Willow Grove, Pennsylvania

106 YEARS OF ROLLER MAKING



for the man who runs the spacer . . . profit

When the operator jogs a lift into a Seybold Auto-Spacer, the cuts and trims come fast—accurate to thousandths of an inch—automatically positioned. What's more, he can depend upon the back gauge to return to the same place time after time, on each series of cuts. The operator becomes less of a wrestler, more of a precision craftsman. His work is safer. These things are profit for him.

for the bindery superintendent . . . profit

The man in the middle—between craftsman and salesman—knows the value of a dependable machine, a machine that can stand up and turn it out. Tough jobs, like tightly imposed gang runs of calendars, are easier to handle. Spoilage is at a minimum. The steady flow of good work keeps both customers and the front office happy—always a profit for the superintendent.

for the man who signs checks . . . profit

When the head of a printing plant buys a photocomposing machine, he obtains the economies of step-and-repeat. It's a form of mass production. He applies the same principle in the bindery with a Seybold Auto-Spacer. Costs come down while quality standards stay high. That usually results in a healthy business—and healthy profits.

for people checking the date . . . profit

Every year, millions of calendars are given away. Fine, high-production equipment, such as that made by Harris-Seybold, permits advertisers to display their names on high-quality work—at low cost. The public "uses" calendars millions of times each day. To the public, it's a vital service, and it's free. If that isn't profit, what is?

* * *

Calendars are just one example of the way commercial printing profits everyone. We help printers maintain a good profit picture by supplying dependable power paper cutters, continuous book trimmers, offset lithographic presses, rotary letterpresses, sheet collating machines, multiple-spindle paper drills, litho-chemicals, and other fine graphic arts equipment. Consult Harris-Seybold in all principal cities, or at 4510 East 71st Street, Cleveland 5, Ohio.

HARRIS-SEYBOLD

BEYBOLD 64" AUTO-SPACER PAPER CUTTER AT JOHN BAUMGARTH CO., MELROSE PARK, ILLINOIS • COLOR PHOTOGRAPH BY CORNELIUS

fine graphic arts equipment...for everybody's profit

THEY CLEANED UP MY FIRST IMPRESSION PAGES...SOLVED MY OFFSET PROBLEMS FOR KEEPS!
AND NOW THEY'RE EVEN BETTER. "SPHEREKOTE" BLANKETS ARE THREE WAYS IMPROVED!

More Cushion! Closer Caliper Control! Tighter Bead Bond!

NOW AVAILABLE-ALL-NEW "SPHEREKOTE" 2-PLY BLANKETS

NOW THE BEST is even better! New 2-Ply "Spherekote" Blankets are more resilient—contain no "dead material." They give longer, more trouble-free press-runs—millions of extra impressions.

Cut first-impression offset, smudging and double-printing. Put *all-new* 2-Ply "Spherekote" Blankets on your presses today and prove it to yourself.

"SPHEREKOTE" Drawsheets, Blankets cut costs all over the plant	
Make-up	More preferred positions for cuts and advertising. Make-up moves faster, with fewer interruptions. Allows tighter papers.
Pressroom	Fewer press stops for replating; no waste copies from first-impression offset.
Maintenance	Press packing lasts much longer.

FREE SWATCH!

Return today for swatch of 2-Ply "Spherekote" Blanket and complete information.

Minnesota Mining & Mfg. Co.
Dept. PE63 St. Paul 6, Minn.

Name.....

Company.....

Address.....

City.....Zone....State.....

SPHEREKOTE
BRAND
DRAWSHEETS and BLANKETS

Made in U.S.A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn.—also makers of "Spherekote" Brand Tympan Covers and Frisket Papers, "3M" Brand Sensitized-Aluminum Photo-Offset Plates, "Scotchlite" Reflective Sheeting, "Scotch" Brand Pressure-Sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N.Y. In Canada: London, Ont., Can.

See us at Booth 91-92 A. N. P. A. MECHANICAL CONFERENCE Milwaukee, June 15-18

26 types and 5,850 sizes —as near as your telephone

EVERY so often, a machinery maker comes to the Timken Company for help with a very special bearing application. Something, he's pretty sure, we've never encountered before.

Almost always, we're able to give him a pleasant surprise. In over 50 years of helping manufacturers with special bearing problems, all the while improving our designs, we've produced an astonishing variety of tapered roller bearings. So many sizes and shapes that the "new" bearing has usually already been designed and made by the Timken Company. So many that the "new" design problem has usually been already solved with the help of Timken Company engineers.

If the people who buy the machines ever have occasion to replace a Timken® bearing, they get the same kind of pleasant surprise. Even when a machine's very old, they can almost always get immediate delivery on Timken bearings for replacement.

Be sure that every bearing you use in the machines you buy or build is stamped with the trademark "Timken". The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

TIMKEN *TAPERED ROLLER BEARINGS*

TRADE-MARK REG. U. S. PAT. OFF.

NOT JUST A BALL ○ NOT JUST A ROLLER ⊂⊃ THE TIMKEN TAPERED ROLLER ⊂⊃ BEARING TAKES RADIAL ⊕ AND THRUST →⊕← LOADS OR ANY COMBINATION →✳←

Has YOUR Newspaper Subscribed?

THE MILWAUKEE JOURNAL

ROP COLOR SERVICE

FOR NEWSPAPERS

Tailor made to ease the problems of every newspaper's production departments, this new service brings you a wealth of ROP color material for immediate use!

☆

Here are two, three and full color units . . . editorial and advertising subjects . . . that can brighten your news pages and increase advertising revenues without expensive color art, photography and engravings.

☆

Yes, you can be in the newsprint color business immediately, without waiting to set up an extensive color department in your own plant. You have your choice of the finest color jobs from the nation's top newspapers, leading retail stores, national advertisers and agencies. Lakeshore Electrotype Co., leader in the newsprint color field, provides the mats or plates you need.

☆

Expert counsel available from experienced Milwaukee Journal color team and from Lakeshore experts on reproduction materials . . . an unprecedented opportunity for all newspapers to rapidly become proficient in color printing. Whether or not you now print color, by subscribing to the Color Service you can help your production staff prepare for the time when you go into color printing, or expand your present facilities to full color.

• THIS NEW ROP COLOR SERVICE

establishes for the first time a national Color Service Center

— a central source of newspaper color, setting up in one place a color library from which reproduction material can be ordered for use in newspapers.

• Provides More Color Material

for your editorial and advertising departments through 40 weekly releases of timely color subjects each year.

Permits fast interchange of better color ads and editorial units between advertisers. It offers national and cooperative advertisers a service center for distributing their color source material.

• BRINGS DOWN COLOR COSTS

Many color plates now being destroyed after use by newspapers or advertisers can be of general use at a fraction of original production costs. Nearly 300 subjects already have been made available in only seven issues of the Color File.

• IN THE COLOR FILE EACH WEEK YOU RECEIVE:

Food pages in color
to put new life and interest in food sections . . . attract more food advertising.

Fashion pages in color
to win more attention from the style minded . . . more advertising of related items.

Home furnishings in color
to catch the home minded audience . . . help you increase furniture and appliance advertising.

Screen-TV stars in color
to increase attention and readership . . . step up circulation and advertising.

Special section covers in color
to dress up the entire newspaper . . . provide opportunities for increased advertising.

The Milwaukee Journal ROP Color Service for Newspapers

Finest Reproduction Materials

for all Color Service units are assured — supplied on order through ROP Color Service by Lakeshore Electrotype. For example:

- **SUPER BISTA PRE-MADE-READY MATS**
  are prepared to exact box dimensions for producing plates to your exact printed page size. You cast your press plates direct from Super Bista Mats. All local store listing or copy changes are made, eliminating flat casting.
- **COLORTONE PLATES**
  are recommended for hot molding.
- **REILLY PLASTICTYPE PLATES**
  are recommended for cold molding.
- **SUPREME TONE-TEX MATS**
  are recommended for flat casting.

If you have not yet received a copy, ask for "Recommended Quality Standards on R.O.P. Color Materials for Agencies and Engravers" by Lakeshore Electrotype.

Lakeshore's experienced field representatives are available for advice and consultation on all matters pertaining to ROP color and the correct use of ROP Color Service material for reproduction. Your inquiries and suggestions are welcome.

YOU ARE INVITED

to visit the display booths of Lakeshore Electrotype at the Milwaukee Arena during the ANPA Mechanical Conference in Milwaukee June 15-18.

HERE IS WHAT SUBSCRIBERS RECEIVE:

1. WEEKLY COLOR FILE

Tear sheets and proofs of two, three and four color pages and smaller units . . . from simple Ben Day tint work to process color. In addition to Milwaukee Journal material, there are units from other newspapers, ads from national accounts and agencies, and 50 original pages by Vogue-Wright Art Studios.

2. LOW COST MATS

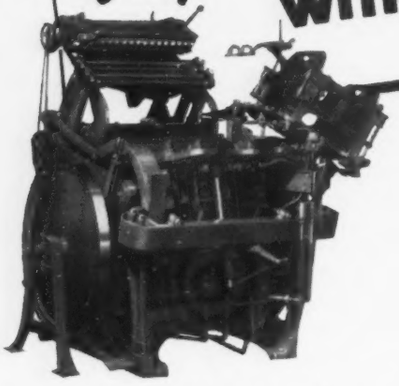
You can get the type of reproduction mat you want at moderate prices. Simply make your selection from the Color File tear sheets, then order mats from ROP Color Service. Prompt shipments will be made from Lakeshore Electrotype. Large volume makes prices surprisingly low.

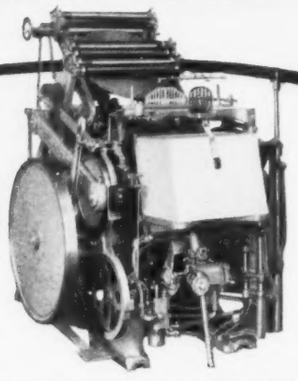
Investigate This Opportunity Now!

Discuss ROP Color Service with your editor, publisher and advertising manager. You can get started immediately. Find out how this service can assist you. Get full details while you are in Milwaukee, or—phone or write today.

333 W. State St. Milwaukee 1, Wis. Broadway 1-6000

GET MORE AND BETTER *Impressions and Profit* WITH C & P PRESSES



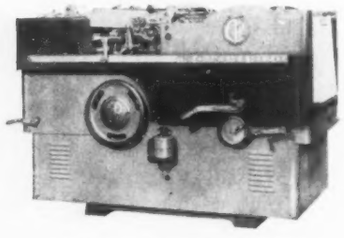


14½ x 22 CRAFTSMAN AUTOMATIC

For diecutting, scoring, creasing, inking, blanking, stamping and embossing, these exceptionally rugged presses combine the convenient make-ready, operating ease and all-around usefulness of a large size platen press with the cost-cutting advantages of automatic feeding. Two models—Regular and Heavy Duty. Both presses handle irregular and odd shapes. They blank, stamp and ink book cases and covers. Both have sufficient impression strength for cutting, creasing and die cutting as well as the ability to produce high quality printing.

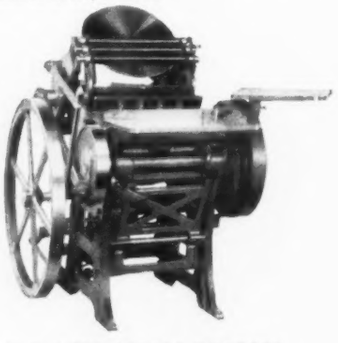
10 x 15, 12 x 18 CRAFTSMAN UNITS WITH AUTOMATIC FEEDER

For fine halftone and color printing, these presses can handle a large part of the work in the average shop. Handwheel impression adjustments save at least 30% in make-ready time. Modern inking systems provide finely-controlled ink distribution. The simplest and most direct feed and delivery ever designed handles any stock from onion skin to heavy board.



C & P CYLINDER PRESS

Handles fine halftone, close register and color printing at speeds up to 4800 i.p.h. Ideally adapted to both long and short runs. Remarkably efficient in high production at low costs. Handles sheets from 3½ x 5½ to 12¼ x 18½, from onion skin to 4-ply cardboard.

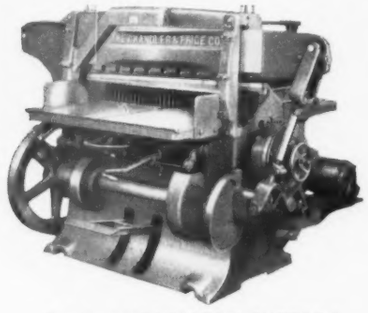


C & P NEW SERIES PRESSES

Made in four sizes—8 x 12, 12 x 18, 10 x 15, 14½ x 22—designed for hand feeding all kinds of commercial printing, from all-type forms to process color work. Smaller units are capable of producing up to 3,000 i.p.h.—larger sizes, 2,000 i.p.h.

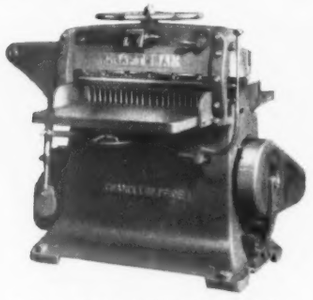
C&P 37″ AUTOMATIC PAPER CUTTER

Fully automatic, with ease of clamping and cutting that only electrical operation can provide. Unusually wide table with extensions—width between housings 37″. Push-button controls make operation extremely easy, simple and fast. Two-handed control of cutting with foolproof non-repeat device that meets all safety requirements.



C & P AUTOMATIC CUTTERS 2 SIZES: 44″ 50″

Extremely rigid base—substantial one-piece casting. Two-handed operating control with non-repeat device; 1″ traveling overhead tape, hair line indicator, illuminated tape magnifier combined with light for table, adjustable knife bar gibs, all controls within easy reach. Your wisest choice is a C & P cutter—cutters that have *proved* their ability to do accurate and economical cutting.



C & P 34½″ HAND CLAMP POWER CUTTER

Handles large volume of cutting and trimming, speedily, accurately and at low cost. One-piece cast frame, heavy ribbed construction; extra heavy knife bar, pulled in single shear, requires less power and eliminates all draw and chatter; illuminated tape magnifier; two-way starting motion, cannot start nor repeat accidentally.

● Before equipping a new printing plant or modernizing your present plant, it will pay you to investigate the complete lines of Chandler & Price printing presses and paper cutters which reflect almost three quarters of a century of experience in manufacturing high quality printing machinery.

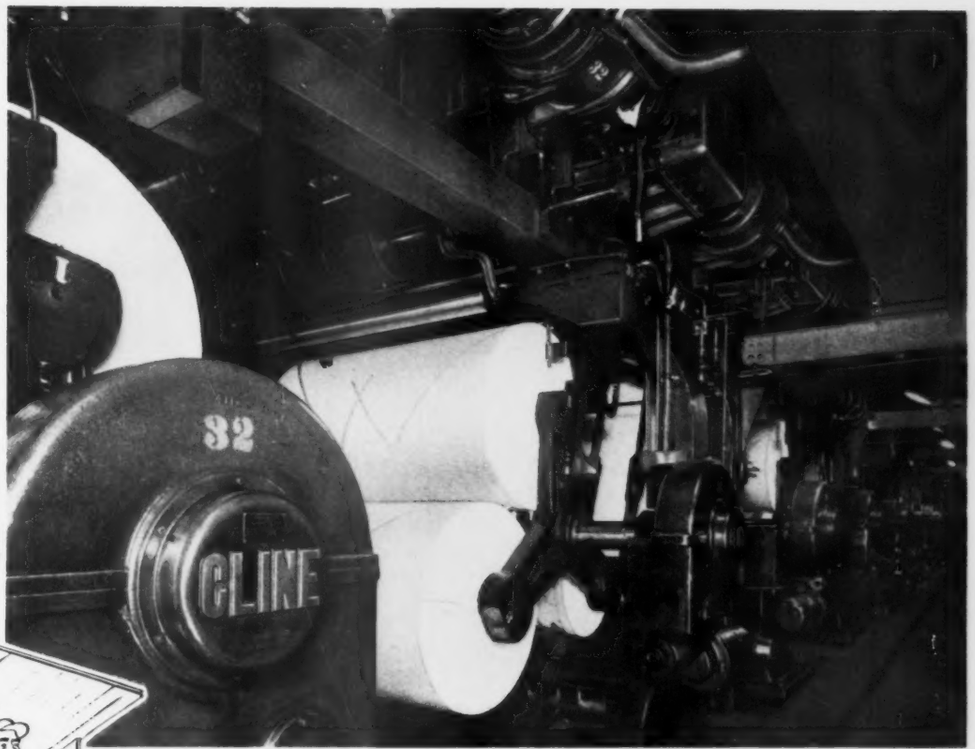
More than 150,000 Chandler & Price presses and cutters have proved their sterling worth and profit-making qualities.

Detailed descriptions of any of the units illustrated here will be supplied gladly upon request.

THE CHANDLER & PRICE COMPANY • 6000 CARNEGIE AVE. • CLEVELAND 3, OHIO

Built by American Workmen

Cline-Westinghouse drives and controls power the presses . . . Cline reels, tensions and pasters help speed up production.



TIME AFTER TIME

America's Great Newspapers Specify

Cline-Westinghouse

Drives and Reel Equipment

For Commercial Printers

Drives for all types of presses.

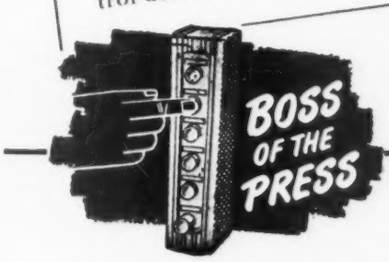
Control Equipment for binding, electrotype, stereotype and composing machinery.

Electronic Controls for motor drives, color registering and matching, side margin and folder web controls.

Winders and Unwinders complete with variable voltage drives and tension control devices.

That Cline equipment continues to lead the field is well demonstrated by the long list of important newspapers that come back for more, year after year. Among the plants, large and small, which have re-ordered Cline-Westinghouse during the past year are . . .

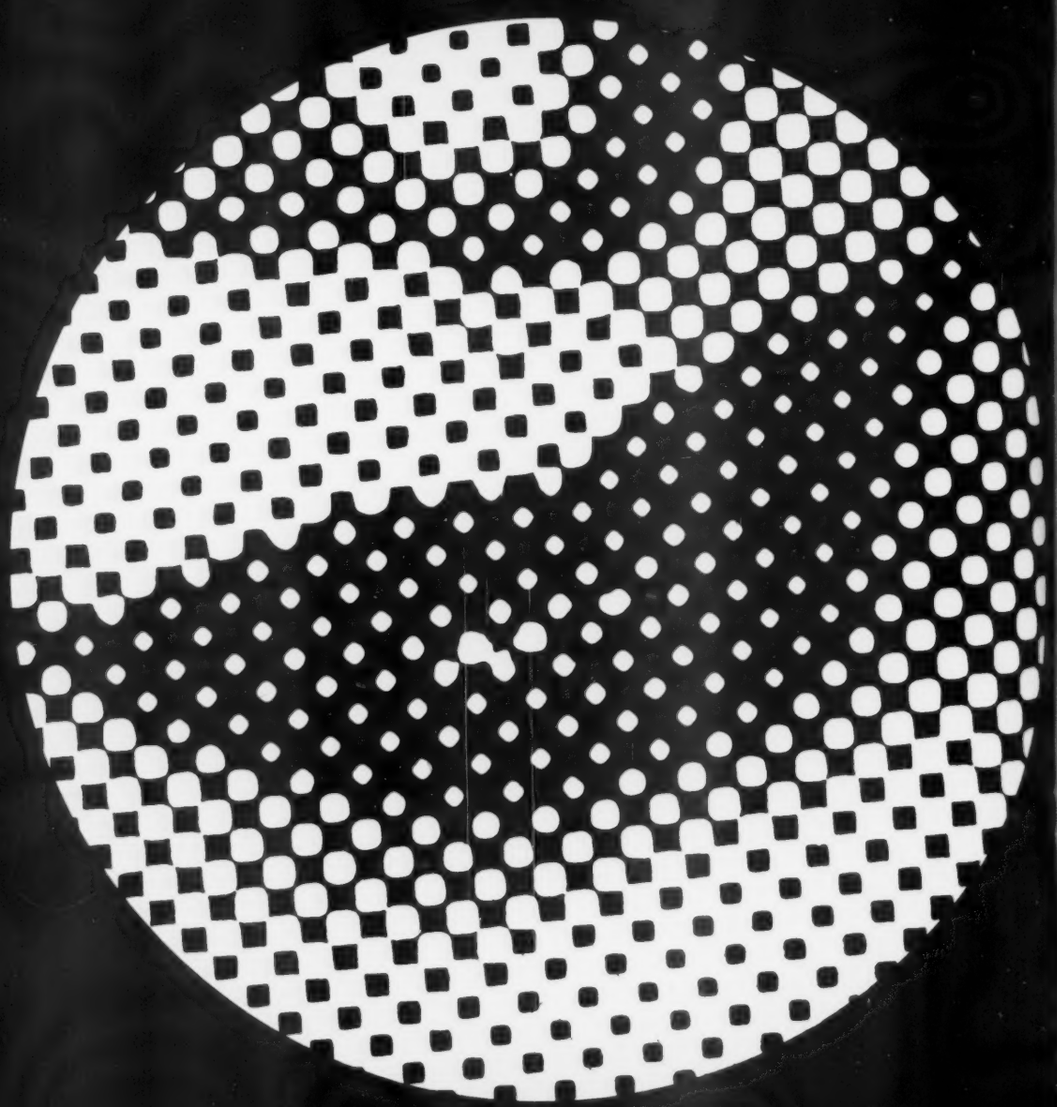
San Diego Union & Tribune
Denver Post
Norfolk Ledger
Des Moines Register & Tribune
Phoenix Republic & Gazette
Toronto Star
Tampa Tribune
Wichita Beacon
New York Daily News
Los Angeles Times
South Bend Tribune
Minneapolis Star & Tribune
Gannett Newspapers, Rochester
Chicago Sun Times
Tucson Star & Citizen
Wall Street Journal
Hearst Publications, Pittsburgh



Cline

ELECTRIC MANUFACTURING COMPANY
3405 WEST 47TH STREET, CHICAGO 32
San Francisco 8, California • New York 17, N. Y.

HERE'S HOW W



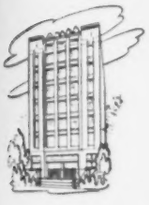
WE SEE HER

IPI lab technicians study enlarged half-tone dots for better quality control of inks

The IPI ink expert gets a microscopic close-up of exactly how printing ink lays on the page when he examines half-tone dot patterns blown up more than 20 diameters.

By studying photomicrographs of an ink specimen (see enlargement at left) he is able to catch any existing defects in the ink that might go undetected under an ordinary linen glass. In this way IPI inks are kept constantly free of the many faults that often give headaches to printers.

This is another example of how IPI research teams up with quality control to produce inks that print sharper, cleaner, with brighter color strength and maximum coverage.



IPI research at work for you

IPI offers the broadest research program in the graphic arts. Scientist and technician, engineer and mechanic work together with the finest modern equipment in Interchemical's nine-story research lab. These experts have contributed immeasurably to today's high-speed magazine printing . . . better inks for lithography and flexography. . . new techniques that have revolutionized ink making.

You can rely on IPI to solve your printing ink problems. We invite you to call us for consultation.

IPI and IC are trademarks of Interchemical Corporation

INTERCHEMICAL CORPORATION

Printing Ink Division • *67 West 44th Street, New York 36, New York*

RELY ON IPI FOR LEADERSHIP IN INK RESEARCH

WOOD
ELECTROTAB AUTOPASTE
Now Fully Automatic
Wood
SEE A MODEL
ELECTROTAB AUTO TER
Demonstrated at
BOOTHS 58-59
AT THE ANPA MECHANICAL
CONFERENCE IN MILWAUKEE

ELECTROTAB AUTOPASTER

A product of over twenty years of WOOD experience in the field of high speed web splicing. NOW equipped with push-button control for splicing at full running speed of the press.

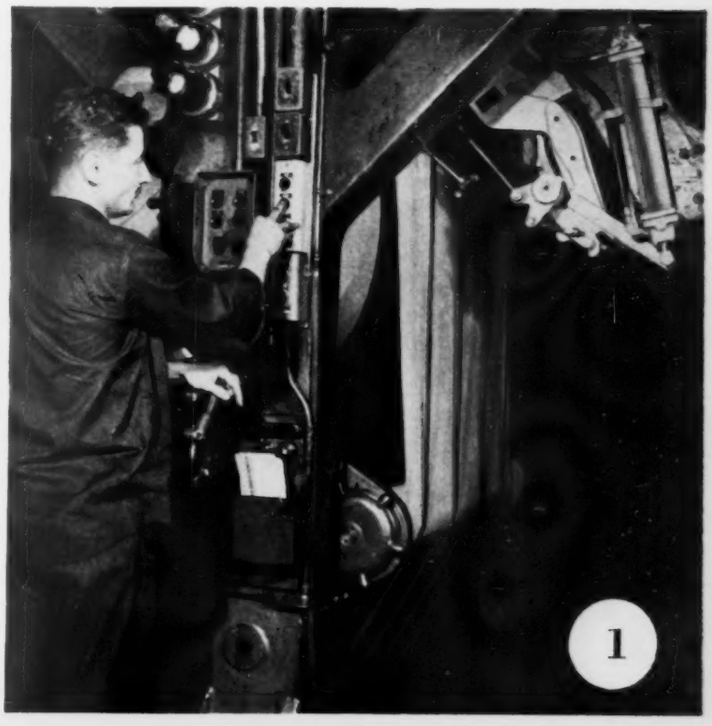
Complete operator control is maintained by three push-buttons.

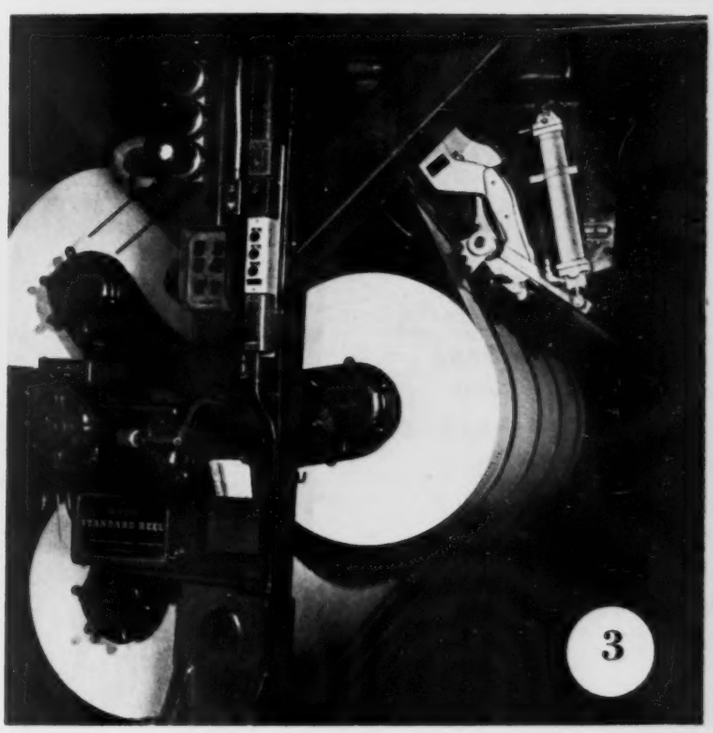
"Lower" button causes Brush Arm to be lowered to splicing position and Drive Wheel to contact and accelerate new paper roll to correct splicing speed.

"Paste" button electrically times the web splicing, tail severing and retracting of Brush Arm and Drive Wheel.

"Raise" button provides means to retract the Brush Arm and Drive Wheel at operator's discretion prior to pressing "Paste" button.

1. ***Brush Arm approaching splicing position.***
2. ***Brush Arm in splicing position.***
3. ***Brush Arm in retracting position, splice completed.***





WRITE FOR FURTHER INFORMATION

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17

HEAR YE!

HEAR YE!

The Big Three
by
NEW ENGLAND

THE OLDEST NAME IN PRESS BLANKETS

1. Our **RED RUBBER BLANKETS** are now the finest ever made for a press—the nearest thing to being oil-proof you can put on a cylinder.

2. **REGAL MONOCORKS** need no introduction. They have built a name for themselves that is the complete envy of the trade.

3. When you put an **IDEAL** tympan over any combination of these blankets you can be sure of a packing that can not be beat.

BRANCHES:

NEW YORK
CHICAGO
SAN FRANCISCO
TULSA

YOU *BE THE JUDGE!*

We'll see you in MILWAUKEE

GARDENER G. DeMALLIE, *Vice Pres.*

Scotty Campbell, Chicago

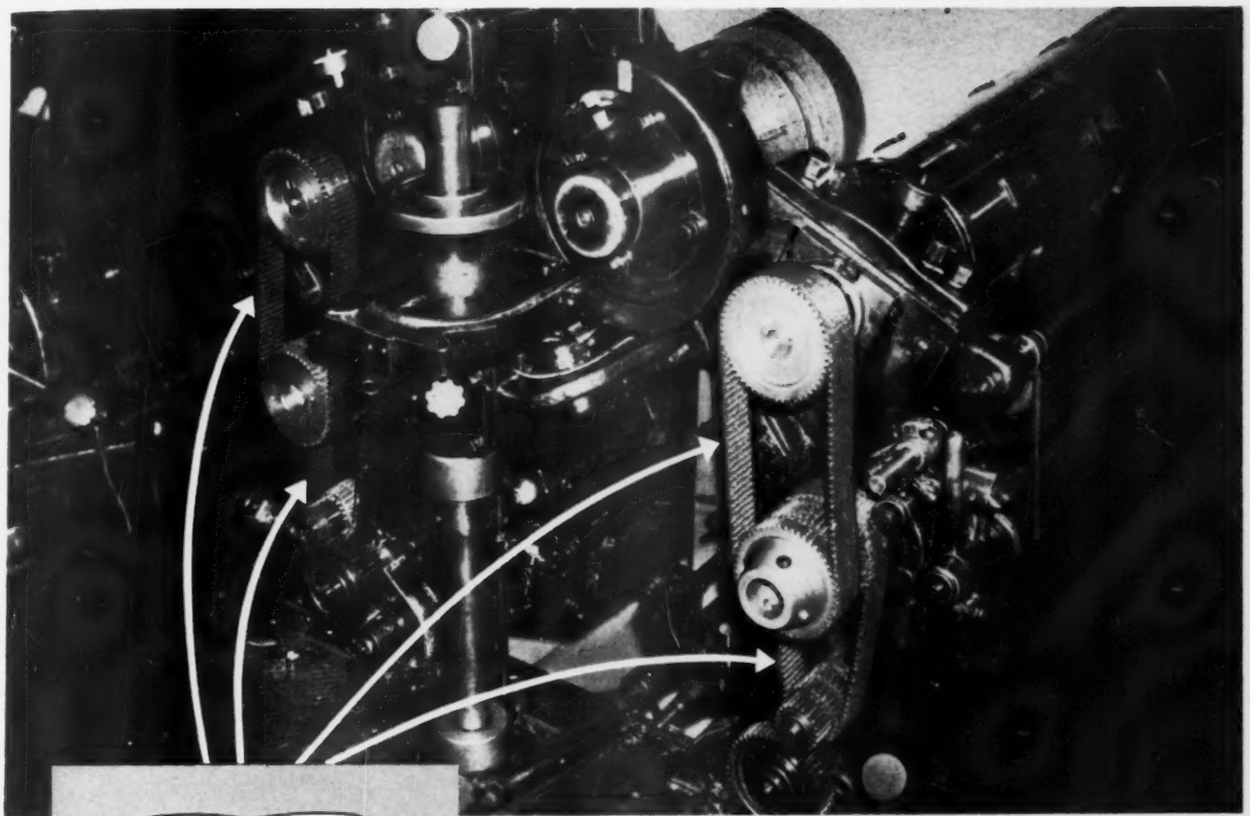
Tony Cronin, New York City

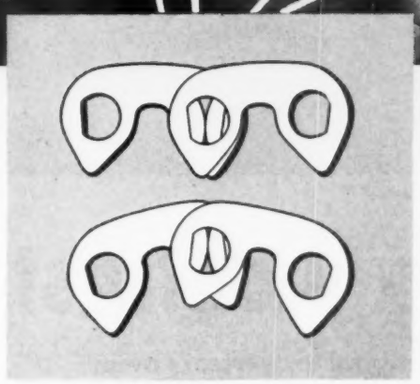
Eddie Gaughan, Tulsa

Ed Sparks, San Francisco

NEW ENGLAND
FIBRE BLANKET COMPANY

WORCESTER, MASSACHUSETTS, U. S. A.





● THE UNIQUE, FRICTIONLESS RAMSEY JOINT enables the chain to **flow** over the sprocket as smoothly as water flows over a dam. Note in the picture above how the contact surfaces of the pins **roll** on each other. Ramsey Chains take no toll of the power they transmit.

For increased production...quietness...efficiency

RAMSEY
SILENT CHAIN DRIVE

ONE OF SIXTEEN UNITS in which the inking rolls are driven by Ramsey Silent Chain Drives. These are in the plant of the "Pittsburgh Press" aiding that progressive publication in meeting its peak production needs.

There is no other chain like the Ramsey—no other chain with the roller-bearing pins between links, eliminating friction and permitting of the fullest flexibility no matter what the load and speed. You get quietness too, which is a positive indication of non-friction. You get a cool-running, uniform flow of power, needing no oil pumps or slingers, mighty little lubrication, and practically no maintenance, and the long service life that results only from the absence of wearing friction.

The bulletin "Ramsey Chain Drives in the Printing Industry" tells why this industry particularly favors Ramsey Chain. At request.

SILENT CHAIN DRIVES—FLEXIBLE COUPLINGS

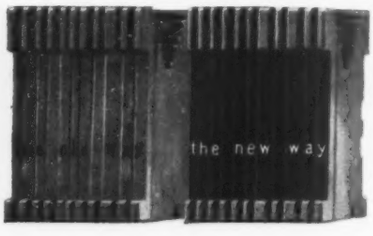
RAMSEY CHAIN COMPANY, INC.

5156 BROADWAY • ALBANY, NEW YORK

LOOK at Matrix Contrast

The last word in linecasting efficiency ...with Matrix Contrast Service you get Black & White and/or COLORS applied to old as well as new matrices; expertly done in your plant or at our nearest Service Branch by our trained technicians; applied when you want them as you want them without interrupting your regular production schedules. And when you buy new matrices, deliveries are made daily from the matrix manufacturers to our New York, Chicago and Los Angeles plants which are equipped to operate 24 hours a day.

Yes, you had better take a new look at Matrix Contrast Service! Now, with new brilliant Matrix Contrast Colors, operators can see at a glance if there's a "wrong font" in the line. Black and White plus Color processing will reduce operator errors to the absolute minimum. Write today for complete information on this *time-proven* Matrix Contrast Service continuous maintenance plan.



Copyright 1953, Matrix Contrast Corporation

MATRIX CONTRAST SERVICE

MATRIX CONTRAST CORPORATION
154 West 14th Street, New York 11, N. Y.
326 W. Madison Street, Chicago 6, Ill.
1105 Trenton Street, Los Angeles 15, Calif.

European Agents: Funditor, Ltd., 3 Woodbridge Street, Clerkenwell Green, London, E.C.1.

ANPA

Mechanical Committee and Research Executives

WILLIAM E. GIBBONS
Chairman, ANPA Mechanical Committee
Production Mgr., Portland (Ore.) *Journal*

WILLIAM BAUMRUCKER, Jr.
Chairman, ANPA Mechanical Research Committee

CLARENCE M. FLINT
ANPA Research Director

VERNON R. SPITALERI
Mgr., ANPA Mechanical Dept.

JOHN L. BLAKE
Vice Pres., Scripps-Howard Newspapers, New York

LOUIS G. BUISCH
General Mgr., Hornell (N.Y.) *Evening Tribune*

HENRY J. CONLAND
Asst. Secretary-Treasurer, Hartford (Conn.) *Courant*

LEVEN T. DEPUTY
Mechanical Supt., Dallas (Tex.) *Morning News*

HARRY EYBERS
Production Mgr., Washington (D.C.) *Post*

LESLIE J. GRINER
Production Mgr., Knight Newspapers

FRED E. GROSS
Mechanical Supt., San Francisco (Calif.) *Chronicle*

SHIELDS JOHNSON
Vice Pres., Roanoke (Va.) *Times* and *World News*

STEPHEN J. LAMBERT
Mechanical Supt., Brooklyn (N.Y.) *Eagle*

CHARLES R. McGUIRE
Mechanical Supt., Minneapolis (Minn.) *Star* and *Tribune*

JOSEPH E. McMULLEN
Production Mgr., Milwaukee (Wis.) *Journal*

JOHN W. PARK
Production Mgr., Chicago *Tribune*

W. WATSON SOUTHAM
Executive Asst., The Southam Co., Ltd., Montreal, Can.

REGINALD TRANTER
Production Mgr., Boston *Herald-Traveler*

EARL R. WEISKITTEL
Pressroom Supt., Youngstown (O.) *Vindicator*

25th Jubilee Program for ANPA Conference

PRESENT indications point to a successful 25th Mechanical Conference of the American Newspaper Publishers Assoc. in Milwaukee, Wis., on June 15 through 18. The Silver Jubilee program includes four days of discussions on newspaper production and mechanical problems, as well as the largest exhibit of equipment and supplies ever shown at an ANPA meeting. Nearly 50 companies have made arrangements to show their latest developments in newspaper machines, supplies and methods. All activities will take place at the Milwaukee Auditorium-Arena which is two blocks from Conference headquarters at the Hotel Schroeder.

Once again, Industrial Relations will be the leading topic as the Conference gets underway on Monday, June 15. ANPA Mechanical Committee Chairman, William E. Gibbons, will introduce such speakers as George C. Biggers, Atlanta (Ga.) *Journal* and *Constitution*; James A. Gray, jr., Winston-Salem (N.C.) *Journal-Sentinel*; and C. Arthur Weis, St. Louis *Globe-Democrat*. Of interest to both small and metropolitan newspaper executives will be a panel discussion on Apprentice Selection and Training.

The balance of the program covers thoroughly all mechanical departments. The composing room, engraving department and advertising will take up three sessions scheduled on Tuesday, June 16. With members of the Mechanical Committee taking a prominent part in the speaking assignments, each

meeting will be augmented with talks by qualified executives with reputations as specialists in their individual fields.

Topics to be discussed at the composing room meeting are *Column Width Reduction, Economies in Typesetting, Composing Room Reorganization for Cost Reduction,* and *Teletypesetter in the Metropolitan Newspaper.* C. M. Flint, ANPA Research Director, will deliver a report on newspaper research, and then the engravers will hear talks by John McMaster, Eastman Kodak Co., Robert H. Dumke, Milwaukee *Journal*, and Harry B. Machum, Portland (Ore.) *Journal.*

Stereotype mat problems will be dealt with by a panel composed of representatives of mat manufacturers at the Stereotype Clinic on Wednesday, June 17. Other subjects will be mat drying for high shrinkage and stereotyping in Great Britain. A general discussion will be led by E. T. Giannoni, Stereotype Supt., Chicago *Tribune.*

On that same day, the pressroom session is to be held. Papers will be presented on the following: *Register Control for R.O.P. Color, Developments in Reels, Tensions and Pasters,* and *Braking High Speed Newspaper Presses.*

The final day of the Conference, Thursday, June 18, will feature meetings on the Mailroom and Preventive Maintenance. James H. Curry, Mechanical Supt., Akron (O.) *Beacon Journal*, will speak on the Wire-tyer machine. *Advance Mailroom Mechanization* is the topic assigned to T. B. Jochem, Cutler-Hammer, Inc.

Arrangements have been made with the member newspapers in Milwaukee (the *Journal* and *Sentinel*) for open house periods to all visiting ANPA executives. These plant tours are scheduled for both Sunday and Monday.

Two New Members for ANPA Committee

Newspaper production and mechanical executives throughout the country have become familiar with the backgrounds of members of the ANPA Mechanical Committee through their continuing devotion to bettering newspaper printing. As is customary at the time of each ANPA Conference, *Printing Equipment Engineer* acquaints its readers with Committee members appointed since last year. The new additions are as follows:

LOUIS G. BUISCH holds the title of General Manager of the Hornell (N.Y.) *Evening Tribune* and notes that he is the fourth generation of his family connected with this newspaper. His formal education in the newspaper field included courses taken at the Empire State School of Printing, Mergenthaler Linotype School and American Press Institute. Buisch also served as copy boy back in 1930 for the Binghamton (N.Y.) *Press.* He was instrumental in the installation of Teletypesetter operation at the *Tribune* in 1933. In addition, he organized five Upstate New York newspapers into a cooperative group for receiving Teletypesetter transmission of Associated Press news. His hobbies include photography and raising beef cattle.

HENRY J. CONLAND is another new executive to become a member of the Mechanical Committee. In business life, Conland is associated with the Hartford (Conn.) *Courant* as Asst. Secretary-Treasurer. He has been with this newspaper for 16 years. He also holds an AB degree from Yale University. Stamps and model railroads are among his hobbies.

New Newsprint Source

An interesting editorial comment appeared in the February 4 issue of *The Wall Street Journal*, New York. The comment has reference to the announcement of the Valentine Pulp & Paper Co., New Orleans, that it plans, and has filed with the government a certificate-of-necessity for construction of a $3 million plant at Lockport, La. to make newsprint out of bagasse, the pulp residue of sugar cane grindings. The plant will have a 17,250 T. capacity annually.

Further *Journal* comment is as follows: "This is only a small fraction of the annual amount of newsprint consumed in this country to bring newspapers to the public, but development of a way to make newsprint out of bagasse is important economically for two reasons:

"The first is that it demonstrates that newsprint can be processed from an annual crop, instead of having to use wood pulp from trees which must grow for several years before they can be used. The second is that bagasse can be supplied by Puerto Rico, Cuba, and the Philippines either to plants there or in the United States. This holds promise of an eventual opening of the newsprint market, virtually controlled by Canadian and Finnish mills.

"And even the conservationists will be happy about it, for the woodsmen can spare many a tree now marked for reading matter 10 years hence."

$3000 in PRIZES

Enter

P.I.A. Printer's and Lithographer's Self-Advertising Exhibition and Awards

Obtain

Rules and Entry Blanks

from

PRINTING INDUSTRY OF AMERICA, Inc.

719 Fifteenth St., N.W. Washington 5, D.C.

Wolverine's New Plant

Wolverine Paper Converting Machinery Corp. has announced a new and enlarged plant located at 18584 Fitzpatrick Ave., Detroit 28, Mich., telephone, Vermont 7-6460.

Public Printer Sworn In— Raymond Blattenberger (left), former executive vice president of Edward Stern & Co., Philadelphia, was sworn in as the fourteenth Public Printer of the United States on April 28. The oath of office was administered by Judge Noble J. Johnson (right) of the U. S. Court of Customs and Patent Appeals. The Bible on which Mr. Blattenberger took the oath is being held by the Rev. Paul W. Staunning, Minister of Collingswood Presbyterian Church.

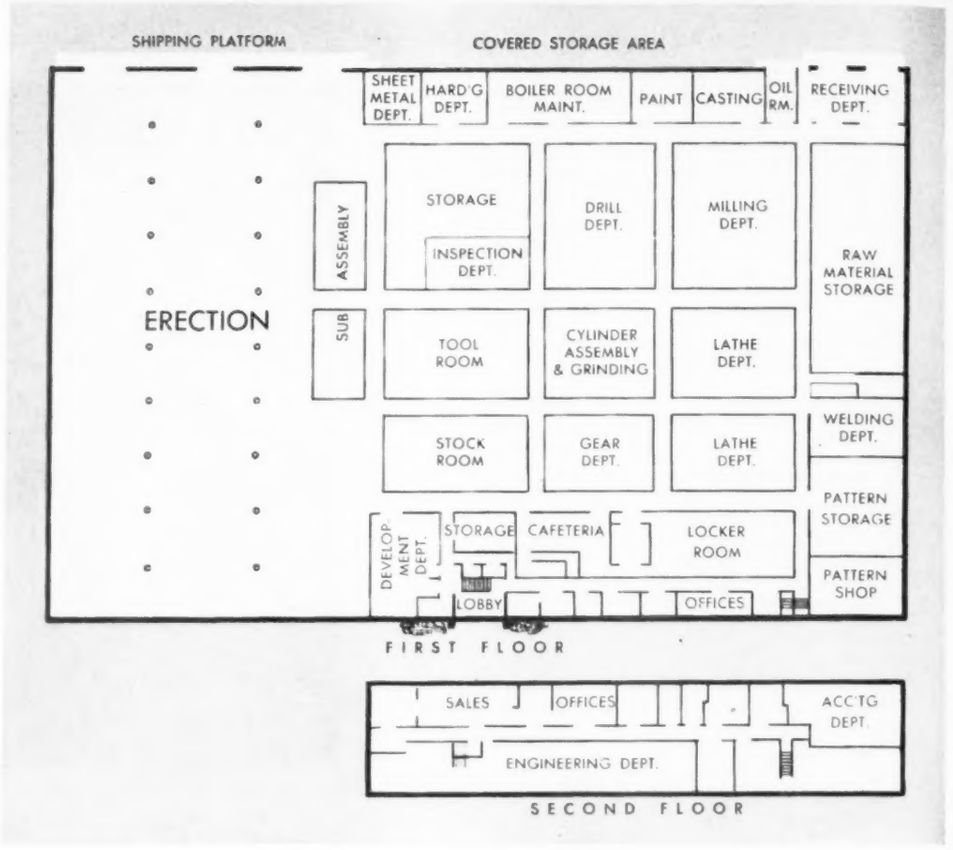
The Spotlight is on *John W. Park*

THE Twenty-fifth ANPA Mechanical Conference occurs this month in Milwaukee. This Silver Jubilee Conference also marks the tribute which is being paid to John W. Park, Production Mgr. of the Chicago *Tribune*. Newspaper production, mechanical, editorial and management executives are gathering at a Testimonial Dinner at the Milwaukee Auditorium. This event honors an outstanding executive who has done as much if not more than any other single individual to advance newspaper production technology. Some one might remark: "Sure, he's done that—he ought to —he has had the means at his disposal." This view is beside the point because Park has always been willing to pass along for the benefit of others, any technical development in which he had a hand. His contributions have been many. He is one of a small group of men who, having the vision, has devoted lots of energy, resources and money to develop newspaper r.o.p. color printing over a long period of time. For his activity in this one development alone he deserves the thanks of the industry.

John Park is the only remaining active member of the original ANPA Mechanical Committee which was organized in 1926. Incidentally, too, he is the first strictly production executive to have been appointed Chairman of the Mechanical Committee. This occurred in 1941 and continued for several years. His attendance record at the annual Mechanical Conferences since the first meeting in Harrisburg, Pa., in 1927 has been continuous.

Park has always been recognized as an extremely democratic presiding officer at the ANPA Mechanical Conferences. It is and always has been his contention that the little and the big fellow have equal rights on the conference floor.

Printing Equipment Engineer hopes that Park, having received this accolade from an appreciative group of men, will not have that let-down feeling which follows so many recognition affairs. We hope he'll keep on struggling because there aren't many men cast in the mold of John W. Park in the newspaper printing industry. For the future, we wish him continued technological activity for the benefit of the industry. There is so much yet to be accomplished.



Floor Plan Layout for New Building, Mount Vernon Div., American Type Founders. Floor space will consist of 112,500 sq. ft. It will be a modern equipment manufacturing plant. Capacity for making web-fed offset and rotogravure presses will be doubled. New building will also house the Division's general offices, development, engineering and testing departments. Comfort, welfare and safety of employees has been given prime consideration. Straight-line production workflow will prevail.

Press Making Capacity Doubled by ATF, Inc.

AMERICAN type Founders has combined its web-fed offset and rotogravure divisions, formerly operated separately, and is now preparing to move into a new plant which will double the manufacturing facilities for this type of printing equipment. The new plant will occupy a 10 A site in Vernon, N. Y.

The building will be 400 ft. long with 112,500 sq. ft. floor space. Its location gives ready access to main highways, busses, subways and rail facilities. There will be off-street parking for 300 automobiles.

Some of the newest advances in design and layout have been incorporated into plans for the plant. Paramount considerations are low maintenance and operating costs and comfort, welfare and safety for employees. The building will be a one and two story structure of steel, cement block and brick veneer, with a poured gypsum roof. Facilities will permit straight line production methods.

ATF operations at the Mount Vernon Div. are at present housed in three widely separated locations. These will be consolidated under one roof in the new plant. Moving is expected to start early in July and will be carried out over a period of several months to prevent interruption of production processes on a large backlog of orders. Completion of occupancy is contemplated for November.

The new building will house, in addition to the manufacturing department of the Mount Vernon Div., its general offices, development, engineering and testing departments.

In the area of the building to be used for erection purposes, a clear ceiling height of 25 ft. will be provided. The erection floor will consist of three 50 ft. bays, 250 ft. long. Each erection bay will be served by two floor-operated traveling electric cranes. A lower ceiling area will have a height of 14 ft. over the machining and sub-assembly operations. These areas will also be served with modern cranes, conveyors and material-handling equipment.

Production at Mount Vernon is devoted to building ATF web-fed offset presses and ATF gravure presses plus other precision-built equipment for the Graphic Arts industry. These include printing collators, carbon processing machines, embossing machines, cylinder handling equipment, proof presses, press folding equipment and sheeters.

The Mount Vernon Division has recently completed a number of high-speed web-fed offset presses for the Psychological Warfare Branch of the U. S. Army and is also producing other important orders.

Headquarters of American Type Founders, one of the world's largest manufacturers of printing equipment and type, is in Elizabeth, N. J., where the Elizabeth Div. produces Chief offset presses, Kelly and Little Giant letterpresses and foundry type.

Architect's Drawing of New Building for Mount Vernon (N.Y.) Div. of American Type Founders.

Useful Developments

for Line-Composing Machine Operation and Maintenance

By SOL CANTOR*

**President, The Composing Room, New York, N. Y.*

THE Composing Room is a typographic composition plant. In it are operated six linotype machines (aside from other composition equipment), with complementary equipment for producing styled composition for direct printing, for mechanical platemaking or for furnishing reproduction proofs and/or transparencies for all platemaking processes. In a plant of this type it is necessary to have utmost equipment flexibility particularly with respect to machine composition. This can be explained when it is stated that in The Composing Room there are 250 magazines and 450 matrix fonts which must be used interchangeably as desired on one or more of the line-composing machines.

These introductory remarks lead up to the further explanation that in a typographic composition plant mechanical equipment must be kept in top-notch condition. Flexibility brings with it the necessity for exacting machine adjustment. Customers have exacting ideas about accuracy in the composition which they buy from us. Thus when machine parts wear it is necessary to compensate in machine adjustment promptly. The means for overcoming a few of these conditions are explained below.

Making Mold Disk Run True

When a Linotype machine is new, the means have been provided for trimming slugs within reasonable tolerances in relationship to type height. In our plant these tolerances are plus or minus 0.0001 in. After a machine commences to wear (as does all machinery) some trouble may be encountered in keeping slugs within the established tolerances unless compensatory means are taken.

One of the locations where wear occurs is at the back vertical bearing surface of the mold slide opposite which the mold disk revolves. Wear also occurs on the inner vertical face of the mold disk plate (F-4692), and some wear occurs on rear and front vertical bearing surfaces of the mold disk itself. Wear also occurs on the bearing surfaces of the upper and lower mold disk guides which support the disk as the back knife trims the slug base. Obviously, the back trimming knife cannot be set accurately because of the front and back play between disk and bearings when wear has occurred. When the slug to be trimmed engages the knife, the play in the bearing promotes inaccuracy by permitting the disk to spring away from the back knife.

In Fig. 1 is shown a means for taking up front and back play in the mold disk bearing when normal wear occurs and after the machine has been in use for some time. It consists of the use of circular brass or paper shims cut to fit the surface of the hub or mold disk stud and the front plate. The shims are cut from 0.0015 in. thick stock and of sufficient diameter to fit into a 0.010 in. deep recess 1 cut into the rear side of the plate. This recess is only of sufficient diameter so it will just clear the front edge of the stud. Usually, the plate is 0.208 in. thick. Thus, if its thickness is reduced by 0.010 in. the thickness through the recess will be 0.198 in. Use as many shims, approx. 0.0015 in. thick, as are needed to provide a free-running but playless fit between disk and bearing. The shims may be oiled to provide adhesion to the plate when making the adjustment.

Removing That Mouthpiece

The metal pot crucible mouthpiece on Linotypes should be removed and replaced at least once a year. Even with careful maintenance, dross and/or oxides

Sol Cantor — Perfectionist

This is an informal portrait of Sol Cantor. He is President of The Composing Room, Inc., New York, N. Y. He is also associated with Fisk Industries, also in New York. This appreciative sketch is written for those who may not know him personally, although it seems most everybody does know or has heard about him. As is indicated in this picture, Sol is equally at home as executive of his successful typographic composition business, or as a composing machine machinist. He doesn't mind getting ink or machine grease on his hands and perhaps spotting a white shirt in the manufacturing department of The Composing Room.

Cantor is a perfectionist. He has always insisted that line-slug composition and makeup turned out for customers shall be done within reasonable tolerances such as prevail in modern manufacturing plants. When he first advanced the idea, it caused the raising of many pairs of eyebrows. Today, however, the idea is almost universally practiced. Years ago, it was brought rather forcefully to his attention that typographic composition customers were extremely impatient with respect to imperfect letter characters, bottled slugs, bodywise, or those which may vary in the height of the printing face from end to end. Instead of presenting alibis to customers for poor composition, he doggedly set about developing means for eliminating imperfections.

Cantor is a skilled machinist. A number of his developments are illustrated in the accompanying article prepared especially for *Printing Equipment Engineer*. He has generously passed them along to the industry. In our opinion, one of the most important is the simple method for making mold disks run true so the back triming knife will trim the slug to 0.918 in. after a machine has been used long enough to cause bearing wear.

In 1927 Cantor inaugurated all line-casting machine composition for advertising typography. He took these highly useful tools and had a hand in refining and improving them. Simultaneously, he trained intelligent personnel to use these tools according to the high standards which he established. The combination has been successful and also proves that Cantor is a teacher.

Genial Sol Cantor has spared neither time nor effort to encourage fellow printers to shoot high. He has always been available for addresses before Graphic Arts groups. Enthusiastic about his profession, he'd rather talk about it than eat. He is a Past President of the Intl. Typographical Composition Assoc. Past President of the Typographers Assoc. of New York and member of the Advertising Typographers Assoc. of America, and frequently conducts clinical sessions at the annual meetings. A test of a man's worthiness, we believe, is the esteem in which he is held by his fellows.

Anyhow, in the accompanying article, this editor feels sure you'll find at least one excellent idea.

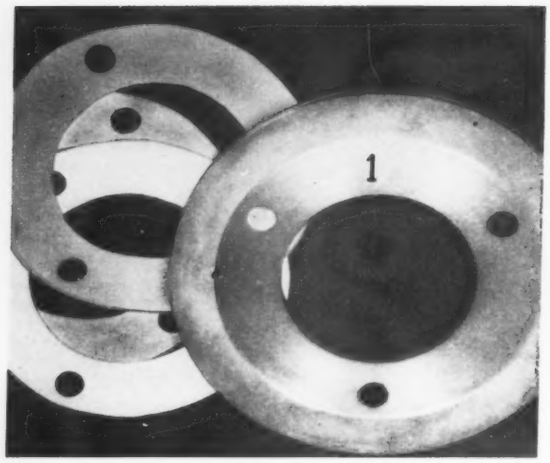


Fig. 1.

have a way of accumulating behind the mouthpiece in the crucible throat. Naturally, this reduces the size of the throat passage through which the molten metal passes on its way from crucible to the mold. The molten metal leaves a tinned residue in the crucible throat behind the mouthpiece which oxidizes gradually since it is exposed at high temperature to the air which enters through the mouthpiece jets after each cast. Pressure of the flowing metal against the mouthpiece (most of which does not pass through the mouthpiece jets) together with the mixture of air, contributes to the gradual building up of these oxide deposits. When sufficient dross and/or oxides have accumulated in the throat passage behind the mouthpiece, difficulty in obtaining clearly cast letter characters together with light bodied slugs will result.

Now, some people have wondered why it isn't possible to provide a simpler means for sealing the crucible and mouthpiece against leakage. The answer is that a lot of time and engineering effort have been expended in trying to improve upon the previous wedge type mouthpiece lockup and the present 13-screw mouthpiece sealing method to provide the necessary tight seal against metal leakage on Linotypes.

After a time, as discussed above, dross and/or oxides will accumulate in the throat behind the mouthpiece. In some cases, it will be found that one or more of the shanks of the mouthpiece sealing screws will have become burnt into the crucible. Safe removal of the screws without damage to the screw holes in the crucible is paramount.

It is to facilitate safe screw removal without damage to the mouthpiece screw holes in the crucible that a jig and tool set (Fig. 2) has been developed by the writer. Even the most highly skilled composing machine machinists experience trouble at times in getting out those screws that have been practically welded in the crucible. The difference between the highly skilled man and the inexperienced one is that the former will do a workmanlike job of removing and replacing a Linotype mouthpiece but at the expense of considerable time and energy, let alone physical discomfort.

The Align-A-Drill tool set has been developed for one purpose only—that of doing a workmanlike job in removing Linotype pot crucible mouthpieces. The tool set consists of 14 pieces: (1) A jarring rod, or screw starter; (2) A counterbore; (3) No. 7 twist drill; (4) No. 12 twist drill; (5) Starting screw tap; (6) Bottoming tap; (7) Four glass hard drill guides; (8) Four locating and holding screws. These are supplied in a wooden case.

The first operation is to clean off the mouthpiece including the clearing out of the screw head slots. Next insert the tongue of the jarring rod in the screw slot. Strike the tool a number of smart blows with an 8 oz. hammer. Then insert the bit of a screwdriver in the screw slot. (The bit should be as wide as the slot in the screw). While bearing heavily against the screwdriver with the body, turn the screwdriver with a wrench. Turn slowly—do not jerk.

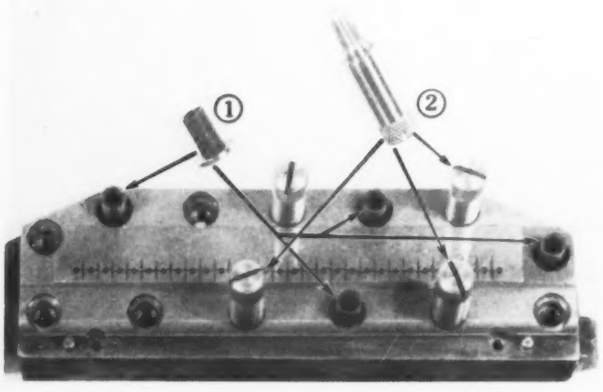


Fig. 3.

Screws that refuse to budge under this treatment or those that break off will have to be drilled out. On a screw which is frozen in but does not break off, mark the exact center of the head with a center punch. With the No. 12 twist drill, drill through the screw head until the head can be broken off by striking it with hammer and punch.

After the mouthpiece has been removed, cut off any projecting parts of the frozen screws with a fine chisel. In cutting off the protruding parts of the screw or screws, be careful not to score or cut the face of the mouthpiece seat on the crucible.

It isn't necessary to tell the skilled machinist that at this point the crucible mouthpiece seat and the seating surface of the mouthpiece should be cleaned as well as the holes for the fastening screws.

Now refer to Fig. 3. Here is shown a mouthpiece in position on the crucible.

Fig. 2.

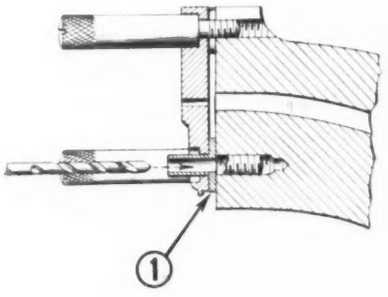


Fig. 4.

For purposes of explanation, four of the holding screws have been broken or have had their heads cut off as explained above. In each of these four holes has been inserted a glass hard flanged drill guide *1*. The mouthpiece has been fastened to its seat on the crucible by the four locating and holding screws *2*. These latter screws really function as dowel pins to locate the mouthpiece exactly for the drilling operation. In applying the holding screws, turn up each screw a little at a time until all the drill guides *1* are held evenly and firmly by their flanges as in diagram Fig. 4. Use the No. 7 drill to drill out the broken screws. Do not drill beyond the original depth of the screw holes.

Remove the mouthpiece. Clean out all particle waste and chips from holes. Use the starting tap first, very gently, to clean

(*Continued on Page 119*)

Artist's drawing of the $12 million Graphic Arts Center of education, research and information being planned for Rochester Institute of Technology.

Survival of Democracy

Largely Dependent Upon Printing Research and Education, Asserts RIT President

By EDWARD H. OWEN

IF democracy is to survive, the illiterate of the world must have access to good printed material," said Dr. Mark Ellingson, President of Rochester Institute of Technology, in a recent interview with *Printing Equipment Engineer*. These words activated a three-part Graphic Arts program at this Rochester (N.Y.) educational institution. At RIT, educators and research men are working side by side, to develop technical means for making large quantities of printed material available to people of all lands.

In the struggle of the democratic nations against the dangers threatening cherished freedoms, printed words have assumed importance never before known. Referring to United Nations statistics, Dr. Ellingson points out that there are still great numbers of illiterate populations in such countries as China and India, and on such continents as Africa. This is a challenging opportunity to provide great quantities of printed matter to help educate these people. It appears RIT is destined to play an important role in this crusade.

As outlined some time ago by President Ellingson and the Board of Trustees, a three-fold Graphic Arts program was put into motion at RIT consisting of: (1) Education, (2) Research and development, and (3) Dissemination of information. Conception of the entire program is credited to Frank E. Gannett, Publisher of the Gannett Newspapers and member of RIT's Board of Trustees.

DR. MARK ELLINGSON, President, Rochester Institute of Technology

Printing executives throughout the country have become familiar with the first phase of this program, education, under the leadership of Byron G. Culver, Head of the Institute's Department of Printing. Students of the technical college have already graduated into the printing industry.

$12 Million Center Planned

The future looks bright for RIT's Graphic Arts program as a $30 million expansion and modernization program begins to unfold. Representing the biggest single phase of the program will be the $12 million ear-marked for a new Graphic Arts Center of education, research and information.

The estimated cost of the new building is $4 million with an additional $2 million necessary to equip it. Most of the $2 million worth of equipment has already been pledged. An additional $6 million will be needed to endow the center. Dr. Ellingson revealed that $5

The research staff at RIT's Graphic Arts Research Division. Reading from left to right are: Warren L. Rhodes, In Charge of Photographic Laboratory; Frederick Wolfe, Offset Pressman; Eldon Thompson, In Charge of Relief Plate Laboratory; Albert Rebernik, In Charge of Offset Platemaking; Herbert Morrow, Research Administrator; Virgil P. Barta, GARD Head; H. Brent Archer, Photographic Technologist; Dr. Charles W. Bennett, Research Consultant; Elmer Larsen, In Charge of Offset Laboratory; Norman R. Reamer, Coordinator of Information Service; Leslie Prinse, Web Offset Pressman; Herbert Cornelius, Assistant Web Offset Pressman; and Ieyasu Ichikawa, Exchange Research Associate.

million has already been pledged for the overall program which was originally announced in late 1951. According to planning, the program will be developed within the next ten years as part of the Institute's 125th Anniversary which it will observe in 1954.

Research for the Printer

The second phase is concerned with the Graphic Arts Research Div., headed by Virgil P. Barta who is assisted by Herbert Morrow, jr. Operating separately from the Dept. of Printing, GARD is in its third year of conducting "research for the man doing the actual printing."

Barta explains that one of the primary objectives of the Research Div. is ". . . to strive for closer liaison with the printer in the industry and assist him with his problems." Dr. Ellingson emphasizes that GARD's work will be for the benefit of all the Graphic Arts industry. Financial contributors to RIT's research program are asked to support it on the basis that results will be made available to the entire industry.

Recognizing that the Graphic Arts is a $5 to $6 billion industry, RIT's president states that the need is for an organized research program to further the objectives of better, quicker and cheaper printing.

Only Scratched Surface

Dr. Ellingson adds: "We have only scratched the surface in printing education. There are so many other exciting things which are yet to be accomplished. This is also true of Graphic Arts research in which we have just made a modest beginning.

"Whatever is developed through our program at RIT will be free and open to the entire industry.

"World markets for printing have nowhere nearly reached their full capacity. Everyone should take an interest in finding faster and cheaper ways to do printing. The fate of democracy may well hang in the balance of whether we are able to bring printed material in vast amounts to countries around the world in the struggle to raise people from illiterate levels."

Break Up Component Parts

The RIT President continued: "Printing has not been an industry of precision measurement. Printing has not used work simplification to the extent other industries have used it and because of this the industry has lost out. The need is to break up the component parts of processes. If we could cut the cost of printing in half, we could substantially increase our volume.

"Only recently have there been evidences that men concerned with different Graphic Arts processes are working together. Best example of this is the number of combination letterpress-offset plants now in existence. Despite this, there still remain many different categories comprised of individual plants which are too small for separate research programs. It must also be recognized that part of the problems in one printing process also exist in other processes."

The long range research program at Rochester will cut horizontally across all segments of the printing industry. It is based upon fundamental research in printing methods, but practical considerations dictate that the initial emphasis be placed on an evaluation and improvement of conventional processes which in turn will result in the development of new applications and techniques. The fundamental science program, however, is kept at an applied research level rather than a pure science program.

RIT's Graphic Arts Research Div. is divided, at the present time, into four operating groups as follows: (1) Applied science laboratories, (2) Relief plate laboratory, (3) Sheet-fed and web offset laboratories, and (4) Photographic laboratory. Within the different laboratories comprising each section are housed up-to-date equipment and scientific instruments.

$350 Thousand Laboratory

Most impressive is the $350 thousand laboratory for investigation and experimentation in web offset printing. This installation provides means for plate graining, precision camera work, photocomposing and platemaking operations, and printing by the four unit perfecting web offset press. The web offset activity was established for investigational purposes in the newspaper field, as well as for training in web offset press operation.

Typical of the equipment used in this laboratory are plate graining machines, etching sink and light tables; 24 in. camera and a photocomposing machine; printing frames, arc lamps, electric dryers, the web-fed offset press with variable speed drive and P.I.V. units, blanket thickness gauge and roller washup device. These major items of equipment are augmented by other devices all of which have been placed in the laboratory through the generosity of manufacturers.

Other important tests pertaining to the offset process are conducted in the sheet-fed offset laboratory. Two sheet fed offset presses are used in this work area. Other equipment includes a whirler, light top table, vacuum printing frame and arc lamp, as well as means for processing plates for a new color printing method.

Applied Science Section

The applied science section is composed of physics, electronic and chemistry laboratories. Investigations are conducted by this group on the physical and chemical properties of Graphic Arts supplies. Studies are also made of the processing techniques involved in the production of printed material. They correlate and interpret data secured by the other sections of GARD in order to establish standards for application to the actual printing process.

Equipment in the physics laboratory has been installed to facilitate research on the physical standards of various kinds of paper, blankets, plates, etc. The chemistry laboratory has as one of its functions, the study of printing inks through the use of the rotational viscometer and inkometer. The purpose of the photographic laboratory is to evaluate the quality of photographs, negatives and the final printed reproduction. This laboratory is equipped with a process camera, several types of densitometers, color comparators, and a separation printer, all of which are used for tone reproduction and quality control analysis.

Complete Engraving Plant

Explorations in the letterpress printing plates field are carried on in the relief plate laboratory. In addition to photoengraving, this section investigates plastic and rubber duplicate plates and some general laboratory work is done. Here is a fully equipped darkroom with temperature control sink, camera, precision proof press, cold grid printer, plastic etching machine, etching machine and plate coater, hydraulic molding press, powdering cabinet, combination infrared oven and plate cooler, and various finishing equipment.

What GARD Has Done

Preliminary efforts by GARD have consisted of the establishment of the standards by which to work. Numerous commercial tests have been run for such companies as Reader's Digest, Rand-McNally & Co., Newman-Rudolph Lithograph Co., and several ink and paper firms. Ink and paper have been put through tests to determine their qualities when run on the web offset press. Problems are followed from the camera through press operation. The preliminary investigations involved black-and white tests and now the results of this work have been applied to further tests involving three and four-color runs.

Continuing work is being done in the relief plate laboratory on magnesium plates. One objective was the development of a solution to chemically blacken this metal as an aid to routing photoengraved plates. Development of a coating material that can be applied to the reverse surface of photoengravers' copper before it is supplied to the engraver was successful. Both of these projects have been completed and the results released to the trade. Testing has been in process for a large manufacturer on its photo sensitive resist for photoengraving. In a series of tests, a number of materials has been investigated for use as light-sensitive acid resists.

Unswerving Patience

Research Head Barta explains that the findings already uncovered at RIT have materially aided the Graphic Arts industry. There have been no earth-shaking developments which would spell a radical departure from present day processes or obsoletion of equipment now in printing plants. Repeating what is already known by many research people, Barta emphasizes that it takes considerable time to get a research program under way and even then, progress is slow requiring unswerving patience on the part of the researcher, as well as the contributors to such a program.

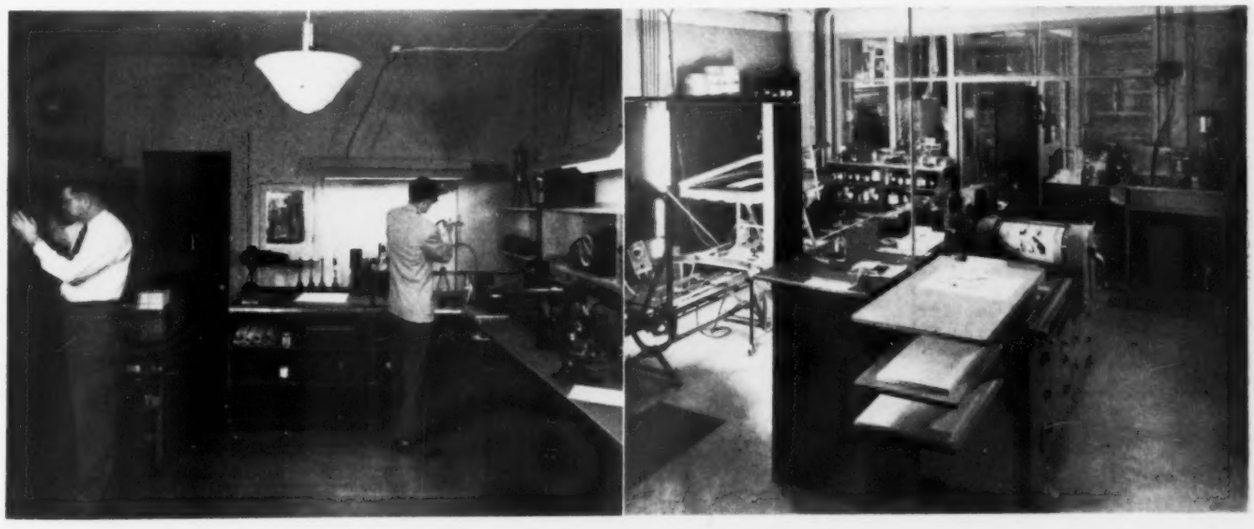
As noted by Dr. Ellingson, research opportunities are unlimited in the Graphic Arts field for providing many avenues in which progress can be made. Staff personnel are of the highest caliber on both scientific and technician levels. A genuine desire to devote a career to research usually motivates a man to enter this field in some capacity. Considering the problems to be surmounted in the printing field, Barta believes there are better opportunities for research men in the Graphic Arts than in many of the other industrial categories.

Information for All

Dissemination of information will be carried out by Information Service which presently is a unit within the structure of the Research Div. and is coordinated by Norman Reamer. This center is being geared to provide technical information to all branches of the printing industry.

Publication and availability of GARD's findings will be the foremost concern of the information staff. Nearly 100 Graphic Arts publications are being carefully scrutinized each month for articles relating to specific subjects. These are classified by means of a punched card index system. It is also planned to edit and publish papers, speeches and privately printed documents in the most useful form.

Once established, the Information Service will furnish answers to specific questions pertaining to processes and equipment. It will also guide the research staff in developing projects of value to the industry and provide necessary background information requested by GARD for use in its work.



Laboratory Views at RIT's Research Division

At left is the physics laboratory in the applied science section where investigations are conducted on the physical properties of Graphic Arts supplies. This lab also evaluates the quality of photographs, negatives and the final printed reproduction. Shown at work here are Warren L. Rhodes (left) and H. Brent Archer.

The relief plate laboratory is shown at right where work is conducted on letterpress printing plates. Facilities also permit investigations on plastic and rubber duplicate plates and general laboratory work. Besides the equipment visible here, other parts of the lab include a fully equipped darkroom, duplicate plate and plate finishing departments.

Carnegie Department is Converted to Printing Management School

CARNEGIE Institute of Technology offers a B.S. degree in Printing Management. In an announcement by President J. C. Warner, it was stated the new unit, officially called the School of Printing Management, will open on July 1, 1953 in place of the currently functioning Department of Printing Management.

Newly-appointed administrative heads will be Glen U. Cleeton, Dean, and Kenneth R. Burchard, Assistant Dean.

Conversion of the Carnegie Printing Department into a School will not affect the goal set up at the time of the Department's establishment in 1913, which was —to prepare young men for positions of administrative responsibility in production, design, sales, and general management in the Graphic Arts fields and allied industries.

Interestingly enough, the conversion puts Carnegie in a unique position, since as a 40 year old Department and a brand new School, it maintains complete laboratory facilities, which has been offering and will continue to offer a program of instruction with emphasis on administration and management leading to a B.S. degree in Printing.

The establishment of the new School will allow for eventual expansion of student enrollment, program of study, teaching staff, and laboratory and instructional facilities. No immediate modification can take place, however, since these changes are possible only to the extent that additional financial support is obtained through industrial and individual donations. In addition, it is hoped that a donor will be found who would be willing to supply funds for a

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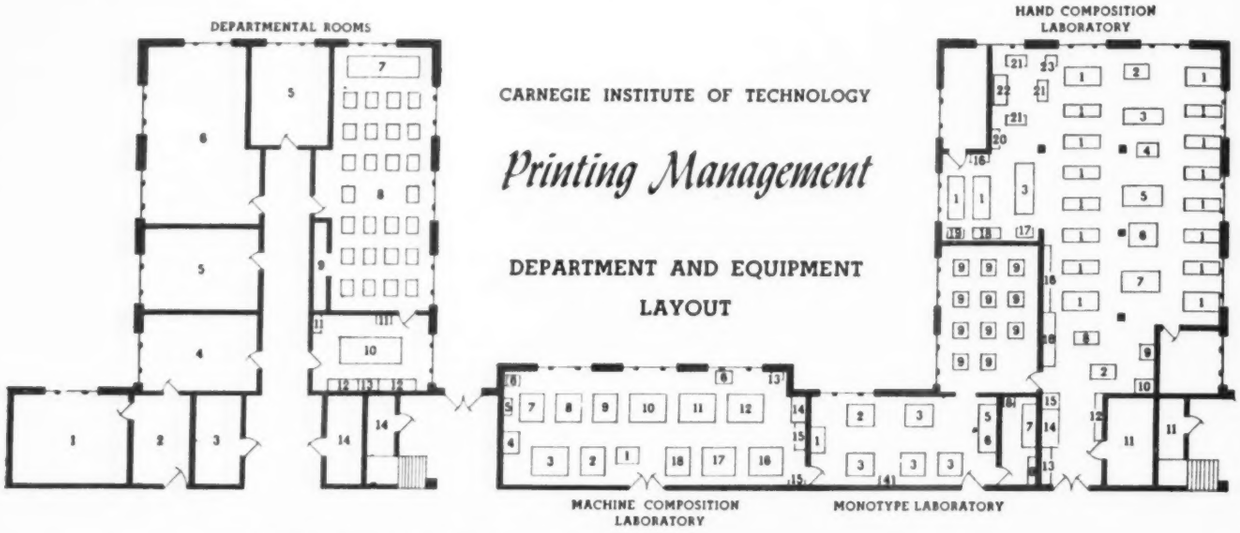


DEPARTMENTAL ROOMS

1 Conference Room
2 Receptionist
3 Porter's Room
4 Department Office
5 Office
6 Classroom
7 Conference Table
8 Design Desks
9 Coat Room
10 Work Table
11 Locker
12 Storage Cabinet
13 Sinks
14 Storage Room

PHOTOLITHOGRAPHY LABORATORY

1 ATF Layout Table
2 ATF Process Camera
3 ATF Macbeth Camera Lamp
4 Table
5 Sink
6 Monotype Layout Table
7 Storage Cabinet
8 Monotype Vacuum Frame
9 ATF Vacuum Frame
10 Monotype Overhead Camera
11 ATF Plate Whirler
12 Monotype Plate Whirler
13 Storage Locker
14 Temperature Control Bath
15 Desk
16 Filing Cabinet
17 Book Case
18 Davidson Duplicator 10x16
19 ATF Little Chief 14x20
20 Webendorf Big Chief 29 22x29
21 Harris LT6 17x22
22 Diamond Cutter 36 1-2
23 Roller Storage

PRESSWORK LABORATORY

1 Boston Stitcher No. 4
2 Rosback Drill
3 Challenge Punch
4 Monitor Stitcher
5 Portland Punch
6 Makeready Table
7 Miller Saw
8 Cabinet
9 Dumperin Smelter
10 Little Giant
11 Heidelberg 10x15
12 Kluge Automatic 12x18
13 Chandler & Price 12x18
14 Chandler & Price 10x15
15 Chandler & Price 12x18
16 Chandler & Price 12x18
17 Chandler & Price 10x15
18 Roller Cabinet
19 Table
20 Cleveland Folder Model OS 20x26
21 Chandler & Price Automatic 12x18
22 Miehle 29
23 Stone
24 Kelly No. 1
25 Miller 2 Color Automatic SW 21x28
26 Baum Folder 17x22
27 Miehle Pony
28 Stone
29 Hacker Plate Guage
30 Babcock Optimus No. 35
31 Miehle Vertical V-50
32 Chase Rack
33 Miller SG 19x25
34 Cutter Table
35 Stone & Wood Rack
36 Seybold Cutter 40
37 Craftsman Line-up Table
38 Table
39 Paper and Ink Storage
40 Sinks
41 Filing Cabinet
42 Desk
43 Plate Storage
44 Storage Closet
45 Roller Cabinet

HAND COMPOSITION LABORATORY

1 Hand Composition Bank
2 Desk
3 Vandercook No. 4 Proof Press
4 Hammond Glider Trimosaw
5 Stone with Galley Racks
6 Furniture Storage
7 Vandercook No. 24 Proof Press
8 Challenge Proof Press
9 Rule Cabinet
10 Richard's Clipper Saw
11 Storage Room
12 Coat Rack
13 Display Case
14 Paper Storage
15 Slug Storage
16 Galley Racks
17 C&G Saw Trimmer
18 Stone with Wood Rack
19 Rouse Miterer
20 Maintenance Cabinet
21 Ludlow Matrix Stand
22 Ludlow Casting Machine
23 Supersurfacer
24 Office

MONOTYPE LAB.

1 Challenge Proof Press
2 Monotype Rule & Slug Caster
3 Monotype Caster
4 Mold Cabinet
5 Work Bench
6 Parts Cabinet
7 Air Compressor
8 Storage Cabinet
9 Monotype Keyboard

MACHINE COMPOSITION LABORATORY

1 2 Magazine Racks
2 Intertype C4
3 Intertype C4
4 Desk
5 Filing Cabinet
6 Sorts Cabinet
7 Linotype Model 8
8 Linotype Model 8
9 Linotype Model 5
10 Linotype Model 14
11 Linotype Model 30
12 Linotype Model 31
13 Sink
14 Machinist's Bench
15 Matrix Cabinet
16 Linotype Model 14
17 Intertype F4SM
18 Intertype C4

Graphic Arts Industry-Wide

Research

Executives and research men present wealth of comprehensive summaries of work currently being done in the industry at St. Paul (Minn.) meeting of Research and Engineering Council—Inspection trip to Minnesota Mining & Mfg. Co. appreciated

By HORACE ANNIS

THE 1953 annual meeting of the Research and Engineering Council of the Graphic Arts was held at St. Paul Hotel, St. Paul, Minn., on Thursday, May 14. On the previous day, however, a goodly number of members of the Publications, Planning and Executive Committees were in session, readying their reports to the membership meeting the following day.

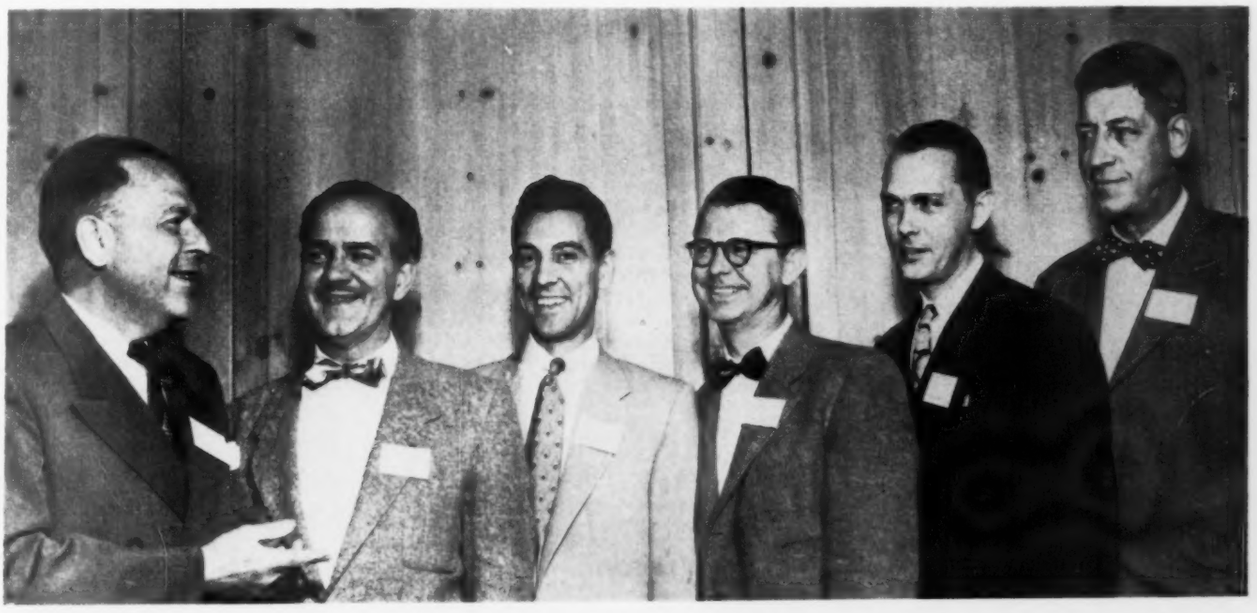
On Friday, May 15, Council members were guests of the Minnesota Mining and Mfg. Co. A plant tour related to Graphic Arts products manufactured by 3M was appreciated by those taking in the trip. Arrangements for the trip were in charge of Dr. Cliff Jewett of 3M. Products supplied by 3M, for the Graphic Arts were exhibited and demonstrated. Among them were Safety-Walk, a wet or dry non-slip surfacing with pressure-sensitive adhesive for use on stair treads in a plant or around machines areas where a slip could be hazardous; Scotchlite stock and ink for luminous signs with printing possible in all conventional ways, including silk screen; abrasive aluminum oxide for a super-abrasive where sandpaper was formerly used; fluorochemicals for use as wetting agents in paper treating and other fields requiring an inert solution. Other exhibits included Spherekote tympan covers, draw sheets and press blankets; Mold-On embossed paper types for bookbinding; Day-Glo daylight fluorescent coated papers; Kromekote heat-seal label paper; pre-sensitized aluminum offset plates which are produced in 16 sizes up to 22 in. by 34 in.; Thermo-Fax duplicator which dry-copies in less than 15 sec. transparent, opaque and two-sided originals on any color of paper or card stock; pressure sensitive tapes for opaquing, stripping and masking; double coated pressure-sensitive type for mounting cuts; Scotch filament tape for packaging and materials handling with tensile strength up to 500 lbs. per in. of width and plastic tapes for marking of work areas, lanes, etc.

At the conclusion of the tour, the visitors were again taken by bus to the Lowry hotel where at a luncheon, short talks were given by Bert Cross, a 3M Vice President; W. H. Gove, 3M Sales Development Mgr.; G. H. Halpin, Exec. Vice Pres. and others.

President Triebe Reports

At the membership meeting on Thursday, May 14, Council President Edward J. Triebe reported that several significant changes have taken place in the Council during the past year. "Perhaps the most significant change," he said, "was the institution of a schedule of dues through which the Council has become a self-supporting Organization. It is our feeling that this change guarantees the life of the Council for many years to come."

It was pointed out by Triebe that membership has increased under the dues system. This system has also brought responsibility to the Council to produce concrete results. He related that the Council undertook so many things at the outset that some have stalled because of lack of time on the part of the staff at Washington. The paper work is piling up



Group of Happy Officers, Research and Engineering Council at May St. Paul (Minn.) meeting. While Council is faced with a number of pressing problems, developments at the St. Paul meeting indicated that real progress is being made with reports of activities to the membership in general.

Left to right the R&EC officers are: President, Edward J. Triebe, Vice Pres., Kingsport (Tenn.) Press; Secretary, J. Homer Winkler, Technical Advisor, Battelle Institute, Columbus, O.; John Reed, Council Executive Secretary; Vice Pres., John H. Davis, jr., Production Mgr., Judd & Detweiler, Inc., Washington, D. C.; Bernard J. Taymans, Managing Director, R&EC, Washington, D. C.; Vice President, Elliott Donnelley, Vice Pres., R. R. Donnelley & Sons Co., Chicago.

on this staff, he pointed out, and it is unable to issue minutes of meetings and reports as rapidly as desired. To remedy this situation a plan was worked out with PIA, but the division of staff time has not been satisfactory.

In order to ease the load, Council committee members are being asked to assume more of the paper work. Heretofore, priority of projects, Triebe reported, has been established more on a basis of progress on the project and how soon it can be completed than on the basic needs of the industry.

J. Homer Winkler gave a brief summary of the previous meetings in Rye, N. Y., Dec. 10, 1951 and a special executive meeting in Cleveland.

Squires Reports for Thomas

Richard Squires of National Publishing Co., Philadelphia, reported the Accuracy of Count project, in the absence of Howward Thomas, Chairman of the Bindery committee, and of Mr. Sendor, Chairman of the Accuracy of Count committee.

The industry as a whole, said Mr. Squires, seems unaware of the importance of accuracy of count and what inaccurate counts are costing. Part of the work of his committee, he said, will be to make this loss better known. It will also enlist the aid of manufacturers for improvement of counting devices and will study the problem of personnel training to make counting devices more effective.

Service department and user requirements will also be included in a forthcoming report, Mr. Squires said, adding that before the committee is through it will be able to outline specifications so that if there is sufficient industry interest, manufacturers can go ahead with development of better counting devices.

He pointed out that many of the existing counting devices fail to give an accurate count, particularly at high speed. The English lift counter seems to be somewhat better than some of the others, he indicated, since it will count a lift up to 20 in., rapidly with fair accuracy.

Triebe wanted to know how the committee proposes to go about putting specification together so the manufacturers will understand what the industry needs —mechanical counter, electronic counter, or some other. Mr. Squires said user requirements will be the basis for specifications and that a questionnaire will be sent to Council members to gather information.

Someone asked: "What should be the prospective life of a counter?" To this Squires replied: "Mechanical counters run up to about 5,000,000 on light-weight stock and that isn't long enough. We would like to have 100,000,000. Photoelectric devices work fine until there is a lot of vibration.

Cornelius Reports on Paper Cutting

George Cornelius, Chairman of the Cutting and Trimming Paper Stock committee, reported. He said it became evident early that two problems are involved —cutting of flat stock and trimming of finished or semi-finished products. The committee is preparing a questionnaire on trimming to go to the industry, the results of which will be compiled before the group goes into the cutting operation.

Cornelius said that allowance for draw is one of the major problems of the study. A number of machines do a rapid three-knife cutting job but lack accuracy and do draw. Size of the machine to be specified is another problem, he said. Requirements vary so much as to size, speed, draw and accuracy. There is a feeling among committee members that it is feasible to set book and pamphlet work up on much the same basis as magazine work.

Cornelius pointed out, in discussions where manufacturers and users were present, it developed that some users wanted a trimmer that would handle archive Bible print, 12 in. by 18 in. and 6 in. thick. Another wanted a trimmer for a very small book. This variation, he said, left the manufacturer in a quandary. Because of this, the questionnaire will ask for the range and size of 80% of the user's work. The top 10% and the bottom 10% must be ignored. Cornelius also said the committee had formed no opinions as to the action of the trimmer—chopper, sliding knife or rotary. Sharpening of knives and the matter of chrome plated knives will probably be taken up, he said.

William Baumrucker, jr., Chairman of the Membership Committee, Research and Engineering Council, makes report for C. M. Flint, Research Director of American Newspaper Publishers Assoc. at May meeting of Council in St. Paul, Minn.

Perfect Binding Report by Monaco

Vice President Dwight Monaco, report-

(*Continued on Page 120*)

Officers and Directors
(Research and Engineering Council)

President—Edward J. Triebe, Kingsport (Tenn.) *Press*.
Vice President—John H. Davis, jr., Judd & Detteiler, Inc., Washington, D. C.
Vice President—Elliott Donnelley, R. R. Donnelley & Sons Co., Chicago.
Secretary—J. Homer Winkler, Battelle Institute, Columbus, O.
Treasurer—Joseph Schwartz, Westcott & Thomson, Inc., Philadelphia.

The above officers and the men listed below compose the Board of Directors and personnel of the Council's Executive Committee:

Z. Wayne Adams, Magill Weinsheimer Co., Chicago.
Lee Augustine, Printing Machinery Co., Cincinnati, O.
Fred Baldwin, Dobeckmun Co., Cleveland O.
William Baumrucker, jr., *Times-Herald*, Washington, D. C.
Raymond Blattenberger, U. S. Government Printing Office, Washington, D. C.
James R. Brackett, Printing Industry of America, Inc., Washington, D. C.
Joseph Chanko, The Conde Nast Press, Greenwich, Conn.
Samuel F. Chernoble, The Comet Press, Inc., New York, N. Y.
G. L. Erikson, Braden-Sutphin Ink Co., Cleveland, O.
Martin Galbraith, Technical Director, Sutherland Paper Co., Inc., Kalamazoo, Mich.
Gordon J. Holmquist, Cole-Holmquist Press, Inc., Los Angeles.
Morris S. Kantrowitz, U. S. Government Printing Office, Washington, D. C.
William R. Maull, The Mead Corp., Chillicothe, O.
Dwight L. Monaco, McGraw-Hill Pub. Co., Inc., New York, N. Y.
Frank F. Pfeiffer, Reynolds & Reynolds Co., Dayton, O.
George C. Schaefer, jr., George C. Schaefer Engraving Co., Los Angeles.
George Schlegel, III, Schlegel Litho. Corp., New York, N. Y.
Frank M. Sherman, Intl. Typographic Composition Assoc., Philadelphia.
Victor Strauss, Pied Piper Press, New York, N. Y.
Ralph B. Tufts, Cornelius Printing Co., Indianapolis, Ind.
E. O. Vandercook, Vandercook Research, Inc., Chicago.
Robert M. Wadewitz, Western Printing & Litho Co., Racine, Wis.
Ex Officio—Wade E. Griswold, Lithographic Technical Foundation, Inc., New York, N. Y.

LTF Technical Forum

Static at Feeder
Paper Embossment
Running Coated Paper
Contact Lamp
Roller Stripping
Phosphate Post-treatment
Aluminum-copper Plate
Ungrained Zinc Deep-Etch Plate

By ADAM HENRI REISER

STARTING noon hour Friday, April 24 and running on through Saturday until 5 p.m. April 25, a group of Lithographic Technical Foundation experts presented offset-lith developments to a New York audience of about 400 persons who were interested in hearing about photo-offset progress.

Subject matter demonstrated was presented as follows:

(1) LTF copper-aluminum plate presented by Jim Martin and Mike Bruno.

(2) LTF smooth (ungrained) deep-etch plate presented by Ed Martin and Mike Bruno.

(3) New light for contact printing presented by George Jorgensen.

(4) Paper troubles and their remedy presented by Bog Reed and Gordon Wheeler.

(5) Plate-making troubles presented by Ed Martin; Mike Bruno and George Jorgensen.

(6) Stripping prevention on the offset press presented by Jim Martin.

(7) Quiz session presented by the entire LTF staff.

Using a technique employed in the Chicago session, LTF used a closed TV circuit to show the practical demonstration. A general quiz session took place before the final session.

I'm certain that everyone who attended the forum gained something. Certainly some thoughts of a revolutionary nature were expressed. Remember when the grains on plates weren't deep enough to hold the moisture? Remember when rollers had to be removed from the press to be thoroughly cleaned?

Now we are shown how to make and run ungrained plates. Three solution washups discussed really clean the rollers. Plating the steel rollers with copper to eliminate stripping is a radical departure from the practice of removing the rollers and soaking them in lye baths. There is even an advocacy of rubberizing the steel to cause them to be ink receptive.

But where will we start this report? Let's take paper first. Much of the material was repetitive of things Bob Reed has told us many times.

We had heard previously a number of tests. Now LTF has developed a test for offset paper. In this test, use is made of the factors important to offset printing, such as the pressure used, the period of contact, and the separation speed at which the paper parts from the blanket. This new method is said to be reliable for testing paper for printing by the offset process.

Static at the Feeder

In answer to a question on elimination of static in piles of paper on the feeder, it was said that there never has been found an honest-to-goodness charge of static in a pile. The greatest offender in this lack of separation of the sheets was that of improperly separating the sheets before they were piled. Not properly winded, is the trade term.

Paper Embossment

A question on paper embossing revealed that this, too, is a misnomer. Actually, the ink stretches the sheet or fibres where a solid runs across the grain of the paper causing a bulge in the pile that resembles embossing. The pressman may reduce his ink to minimize this, but the extent to which it can be done is governed by what the plate and the job will take.

Running Coated Paper

Running coated paper produces troubles because of the need for greater precision in the settings required. The smoother the coating the more precise has to be the setting of pressure, it being best to get minimum pressure between each set of cylinders. Oftimes the lubricating quality of the ink may cause a slur through slippage of the sheet on the blanket.

Drying of the inks on paper reveals good guessing at times. Each job should have the drying property of the ink on the stock to be used, checked by an actual test before running. A 3% cobalt drier, mixed 1 oz. to the lb., may be found to be very good with one ink and not so good with another. Addition of driers to an ink may even retard drying beyond a certain point. Humidity and temperature, affect drying as well as does the acidity of the dampening solution. This may cause decomposition of the driers and then their drying effect is lost.

Copper Plating Solution

Isopropyl Alcohol 98%	15¼ liq. oz.
Ethylene Glycol	15¼ liq. oz.
Hydrochloric acid (conc)	1½ liq. oz.
Cuprous Chloride	1 avoir. oz.

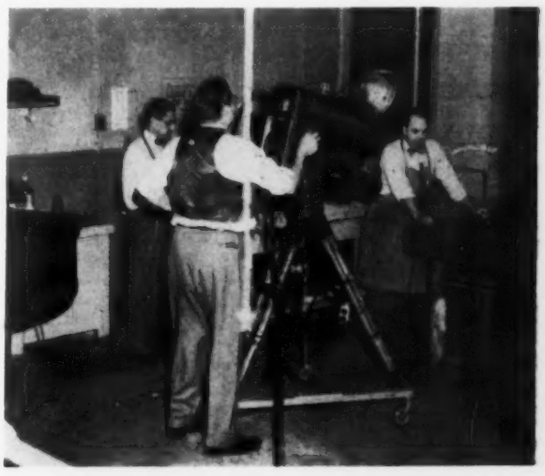
Another application of the third washup solution follows the coppering solution, removing that which has not plated on the rollers. It may be wise to cut vibration down to a minimum during the plating action. If the plating solution fails to plate out evenly, there is evidence of an unclean system. Washing up again must then take place.

While at the start it may be necessary to plate weekly, the life of the covering has been found to run up to six months. A precaution to note in the use of the three solution washup is that of washing out the plate following the washup, thus preventing the scumming of the plate, should any of the solutions touch the pressplate.

Phosphate Post-treatment

To get away from bichromates entirely in the etching process and in the fountain solution, a phosphate post-treatment

(*Continued on Page 116*)



LTF's Mike Bruno checks the script at left while Ed Martin ponders the question at the platemaking trough with the ever-present cameraman at LTF's recent New York Technical Forum.

Uniform Page Cost Breakdown System

By HARRY MILLER*

*Mechanical Supt., Dayton (O.) Daily News.

Summary of Address delivered before Great Lakes Conference, Columbus, O., Jan. 1953.

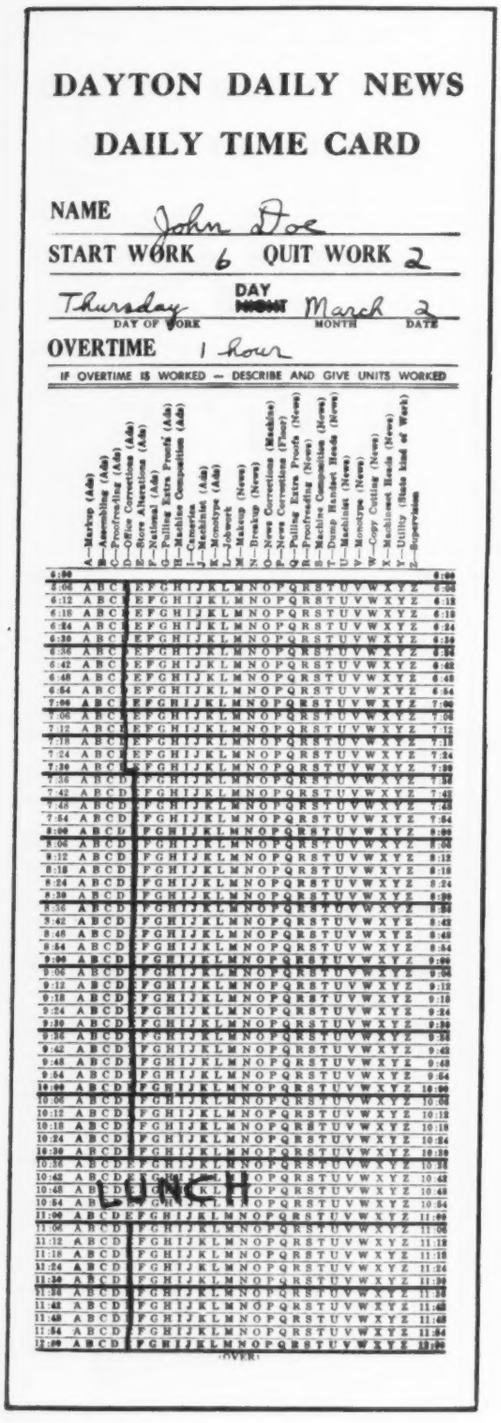
An organized system for providing uniform page cost breakdowns is most essential to successful operation of any newspaper composing room. High labor costs and management's insistence on cost information make it necessary for the production executive to know about such costs. The system in use at the *Daily News* is called a Labor Distribution Plan and it provides a means of comparing costs on any composing room operation from week to week, month to month, or even from year to year.

The effectiveness of such a system can be judged by its use in connection with store corrections which we had noticed were increasing at the *News*. After a review of our Labor Distribution Report it was decided to charge for excessive corrections from original copy. This charge has amounted to an average profit of $827 per month and, in some cases, has reduced the number of corrections received from some advertisers.

The system takes in and credits on the page cost breakdown the amount of job work for the front office and promotion departments. The amount of overset and killed type is measured and a charge made on a column basis. This tends to keep both at a minimum and provides the opportunity to make comparisons on the costs.

When an editor or deskman is replaced in the editorial department, the system provides the composing room with the information on the cost of setting type for the new man. The installation of such a plan enables the composing room superintendent to talk intelligently with the general manager and to show him why costs are high for a busy week.

The idea of figuring page costs on the number of pages in the final edition should have gone out of existence long ago. Employers are entitled to know from their superintendents how every composing room payroll dollar is being spent. The addition of a clerk to compile these figures more than justifies the salary paid.



DAYTON DAILY NEWS

DAILY TIME CARD

NAME John Doe

START WORK 6 QUIT WORK 2

Thursday (DAY OF WORK) DAY NIGHT March (MONTH) 2 (DATE)

OVERTIME 1 hour

IF OVERTIME IS WORKED — DESCRIBE AND GIVE UNITS WORKED

A—Markup (Ads)
B—Assembling (Ads)
C—Proofreading (Ads)
D—Price Corrections (Ads)
E—Store Corrections (Ads)
F—National (Ads) Proofs (Ads)
G—Pulling Extra Proofs (Ads)
H—Machine Composition (Ads)
I—Cancelos
J—Machinist (Ads)
K—Monotype (Ads)
L—Jobwork
M—Makeup (News)
N—Dressup (News)
O—News Corrections (Machine)
P—News Corrections (Floor)
Q—Pulling Extra Proofs (News)
R—Proofreading (News)
S—Machine Composition (News)
T—Dump Handset Heads (News)
U—Machinist (News)
V—Monotype (News)
W—Copy Cutting (News)
X—Machineset Heads (News)
Y—Utility (Heads kind of Work)
Z—Supervision

LUNCH

OVER

Fig. 1—Daily Time Card filled out by each composing room employee at the Dayton (O.) *Daily News* for recording the number of time units spent on a particular operation. Original size of card is 4 in. by 12 in. Employees are instructed to draw a line down through the letters indicating the operation worked on. The time is divided into 6 min. time units shown in the far left and far right hand columns. The other side of the card contains a similar key with its time units along with a space at the bottom where the worker may note the amount and nature of the overtime work he put in.

Hand Set Heads Minimized

An incident occurred recently at the *News* involving hand set heads which again showed the value of having figures to back up your argument. It seems that the editorial room requested the composing room to prepare some sample pages with the headings set by hand. The request was accompanied with the statement that only a few such heads would be used each day. It wasn't long before the composing room had to use two compositors to set the heads, having received 52 hand set heads in one day. The page cost system quickly showed the added cost for that operation in comparison with the previous week. The situation was discussed with the managing editor resulting in hand set heads being kept at a minimum.

Workers Resistance

A major problem in cost systems is the resistance of the workers to time ticket systems. Between the lines you can read that most time ticket systems in use are intended to increase production and at the same time give full information on costs. Where the emphasis is placed on increased production, as it is in so many systems, the worker forms a personal resentment to the plan and the system fails to produce the desired results.

The plan in use at the Dayton *News* is a new approach to page costs. It first gives the breakdown on hourly costs. This informs the foreman just where production should be increased. It also has the full cooperation of the worker in checking the card used for the purpose of determining actual costs.

Fatigue Mats Pay Off

The recent installation of fatigue mats in the ad alley was justified by information obtained through the labor distribution plan. A comparison of ad alley production figures revealed an increase in total inches received. We paid for the mats in short order due to the increased production. It helped us to determine that it still pays to be kind to people and showed the many ways in which the plan can be used.

Daily Recordings

Operation of the system consists of having each composing room employee fill out a Daily Time Card (Fig. 1) on which a prepared alphabetical code indicates the amount of time consumed on a particular operation. Each composing room operation is designated by a letter from A for ad markup to Z for supervision. The employee is instructed to draw a line through the time units under each operation heading on the card he spent on assembling, office or store corrections, pulling extra proofs, etc.

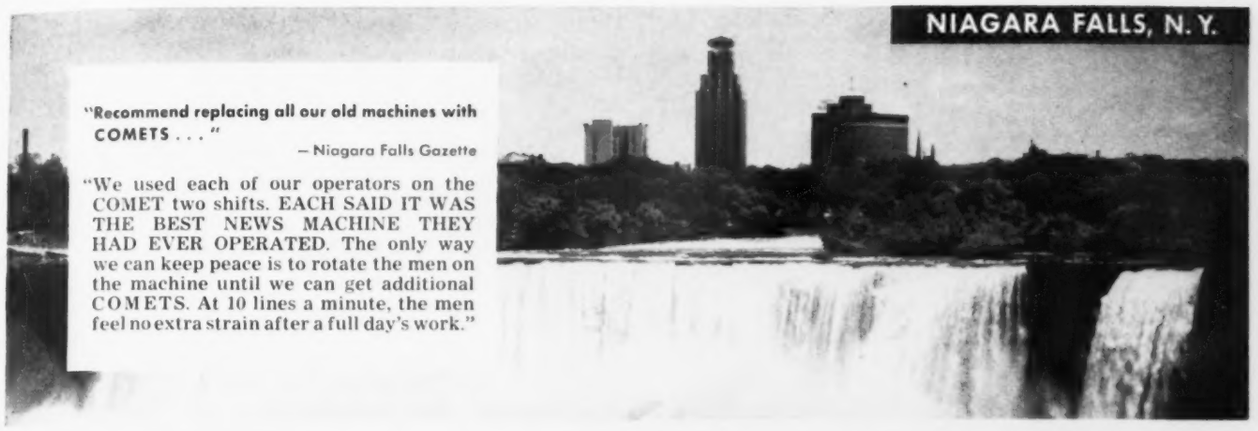
A unit consists of 6 min., hence an hour is 10 units. A new Time Card is placed next to the time clock each morning and returned to the same hook at the end of the shift. Tabulation of the time units from the cards are listed on a Daily Unit Report (Fig. 2) under the appropriate letter for that operation.

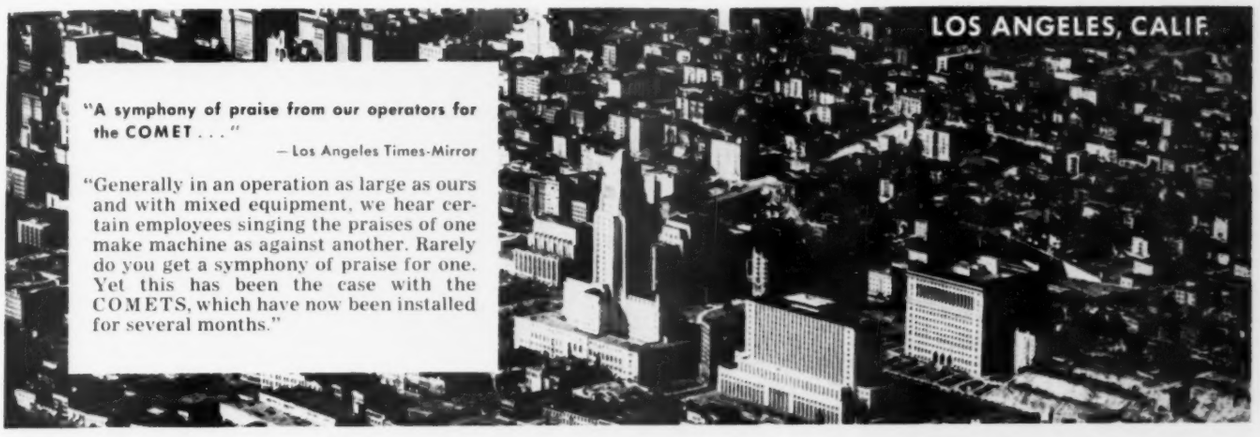
The clerk responsible for compiling the daily findings must also measure and total the number of inches of news set in the composing room. The number of pages in each day's paper are multiplied by 176 in. per page to find total inches. From figures supplied by the advertising department, the advertising inches are subtracted from the total inches of space in the paper giving the balance in inches of news space.

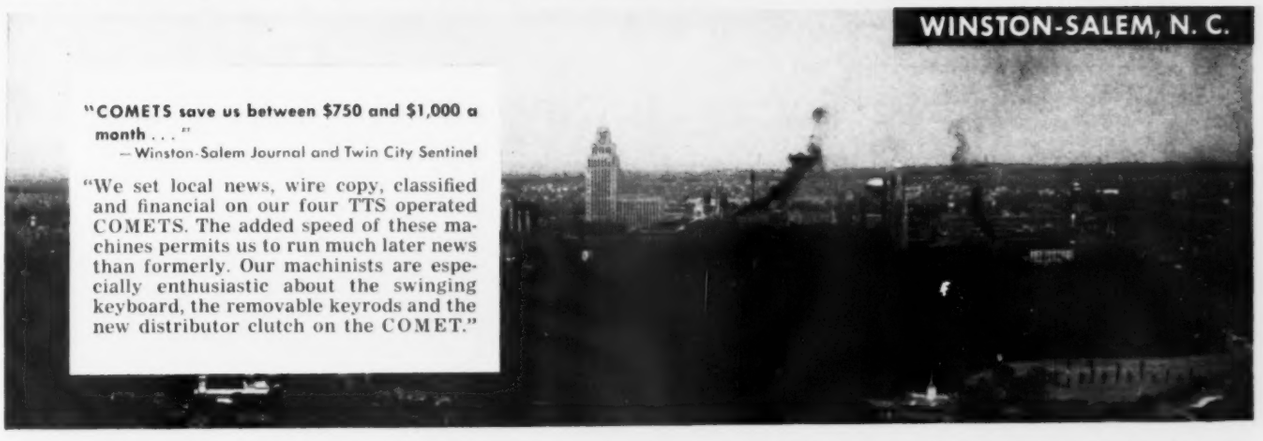
All art work in the daily edition is measured, such as news pictures, comics, etc. This figure is subtracted from the balance of news space leaving the actual number of inches of news in the paper.

The inches of actual news in the paper is in turn subtracted from the inches of

GET THE FACTS—YOU'LL BUY LINOTYPE COMETS, TOO!


NIAGARA FALLS, N. Y.
"Recommend replacing all our old machines with COMETS . . ."
— Niagara Falls Gazette
"We used each of our operators on the COMET two shifts. EACH SAID IT WAS THE BEST NEWS MACHINE THEY HAD EVER OPERATED. The only way we can keep peace is to rotate the men on the machine until we can get additional COMETS. At 10 lines a minute, the men feel no extra strain after a full day's work."


LOS ANGELES, CALIF.
"A symphony of praise from our operators for the COMET . . ."
— Los Angeles Times-Mirror
"Generally in an operation as large as ours and with mixed equipment, we hear certain employees singing the praises of one make machine as against another. Rarely do you get a symphony of praise for one. Yet this has been the case with the COMETS, which have now been installed for several months."


WINSTON-SALEM, N. C.
"COMETS save us between $750 and $1,000 a month . . ."
— Winston-Salem Journal and Twin City Sentinel
"We set local news, wire copy, classified and financial on our four TTS operated COMETS. The added speed of these machines permits us to run much later news than formerly. Our machinists are especially enthusiastic about the swinging keyboard, the removable keyrods and the new distributor clutch on the COMET."

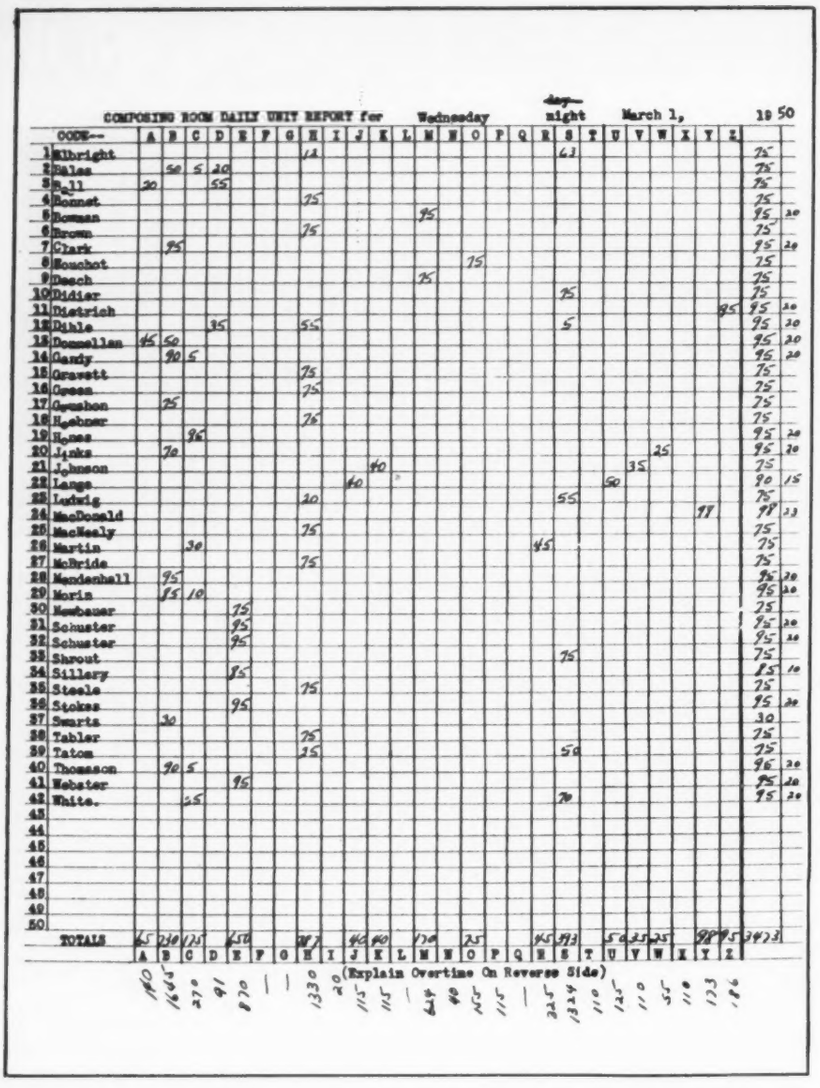
Linotype COMETS are now increasing production in over 400 cities of the world. Publishers, operators and machinists praise them as the fastest machines ever made, the easiest to maintain and operate.

The COMET is the machine for today and the future. Steeper magazine angle, swinging front, faster-acting distributor clutch and many other exclusive features speed your work and cut your costs on either manual or automatic operation. See your Linotype Production Engineer for full details.

MERGENTHALER LINOTYPE COMPANY
29 Ryerson Street, Brooklyn 5, New York

Agencies: New York, Boston, Chicago, Dallas, Atlanta, Cleveland, San Francisco, Los Angeles
In Canada: Canadian Linotype, Limited, Toronto, Ontario

Set in Linotype Spartan, Erbar and Corona families



COMPOSING ROOM DAILY UNIT REPORT for Wednesday day—night March 1, 19 50

CODE--	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z		
1 Albright								12											63								75	
2 Bales		50	5	20																							75	
3 Ball	30			55																							75	
4 Bonnet								75																			75	
5 Bowman													95														95	20
6 Brown								75																			75	
7 Clark		95																									95	20
8 Douchot															75												75	
9 Enoch													95														95	
10 Didier																			75								75	
11 Dietrich																										95	95	20
12 Dible				35				55											5								95	20
13 Donnellan	45	50																									95	20
14 Gandy		90	5																								95	20
15 Gravett								75																			75	
16 Green								75																			75	
17 Gunshon		75																									75	
18 Haebner								75																			75	
19 Hines			95																								95	20
20 Hinks		70																				25					95	20
21 Johnson											40										35						75	
22 Lange										40										50							90	15
23 Ludwig								20											55								75	
24 MacDonald																									77		98	33
25 MacKealy								75																			75	
26 Martin			30															45									75	
27 McBride								75																			75	
28 Mendenhall		95																									95	20
29 Morin		85	10																								95	20
30 Newbauer					75																						75	
31 Schuster					95																						95	20
32 Schuster					95																						95	20
33 Shrout																			75								75	
34 Sillery					85																						85	10
35 Steele								75																			75	
36 Stokes					95																						95	20
37 Swarts		30																									30	
38 Tabler								75																			75	
39 Tatom								75											50								75	
40 Thomason		90	5																								95	20
41 Webster					95																						95	20
42 White.			55																70								95	20
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TOTALS	45	230	115	450				1330	20	40	40	170		25				45	993		35	25	25		95	95	3493	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z		

(Explain Overtime On Reverse Side)

1140 1620 270 91 870 — — 1330 20 1155 1155 — 2550 2550 1155 — — 3255 1324 110 1265 110 55 110 133 1140

Fig. 2—Tabulation of the time units from the Daily Time Cards (Fig. 1) are listed on this Daily Unit Report for the composing room under the appropriate letter for that operation. This form is 8½ in. by 11 in. This particular unit report contains the names of employees at the left who worked the night shift on March 1, 1950. The total at the bottom of the columns for each operation added up should equal the added totals for each worker in the second column from the right. The column at extreme right is for overtime put in by each worker. All time is expressed in the 6 min. time units. The figures appearing at the bottom of the report are the actual time totals in minutes for each operation on that shift.

news set to show the amount of news sent to the future rack or that was killed.

Weekly Recordings

The last day of the financial week at the *News* is Thursday. Each day and night shift is checked against the payroll to avoid leaving anyone off the Daily Unit Report (Fig. 2). After this is done, the time in hours is ready to be figured.

The following steps are followed in tabulating the hourly information from the Daily Unit Report:

(1.) Add each column vertically from A to Z for each day and night shifts.

(2.) The total across which includes the 26 columns should total the same as the total of each man's total in the last column, which includes his overtime if any.

(3.) The figure outside the total shift is how much any employee worked overtime and is there so one can see how much overtime has been worked on a shift. In our newspaper composing room a shift consists of 7½ hrs. Anything over that is overtime at time and a half.

(4.) Add each daily column total to the night column total of hours and this will give you the total number of hours for each operation.

Example: A—day shift unit report is 95 units.
A—night shift unit report is 45 units.
The total would be 140 units or 14.0 hrs.

(5.) Record each letter total on a daily Labor Distribution Report.

(6.) The totals in the adroom plus the total in the newsroom should equal the two totals on the day and night shift unit report.

Labor Distribution Report

The totals from the Daily Labor Distribution Report are now ready to be tabulated on a Weekly Labor Distribution Report (Fig. 3) which includes provisions for comparison with the previous year's hourly percentages. All totals on this form are figured on the basis of the seven day week which includes 13 shifts at the *News*.

Appropriate entries must be made for the following: Inches news set; Total inches space in paper; Inches ads in paper; Inches news space; Inches art in paper; Actual inches news in paper; Inches news killed (or in future rack); Inches news killed (measured); Inches news overset (measured); and Total inches killed. The inches of news killed (or in future rack) is found after the total of actual news in paper is deducted from the total inches news set for the week. The total inches news killed (measured) is the total of the seven days which is added to the inches news overset (measured) which gives the total killed for the week.

Figuring Hourly Percentages

The percent of hours is found by dividing the total number of hours for the week (which should be the exact total of hours on payroll for composing room for current week) into each total of hours worked in composing room.

The total payroll figure after vacations, sick benefits, or job work (which includes work which is not used on the paper) is deducted. The final figure is the figure used to set the cost for the total adroom time and the total news room time. These two figures when added together should give the figure before job work cost is deducted.

To find the cost of each classification of work in composing operation use the figure after job work has been deducted.

Example:

Total payroll for week	$12,638.160
Vacation	—240.050*
	$12,398.110
Sick benefits	—88.690†
	$12,309.420
Job work	—10.216¶
	$12,299.204

* Advanced vacation which appears on current week's payroll.
† Sick benefit which appears on current week's payroll.
¶ Job work hours which figure 4.0 hrs. for the week. Total hours is divided into job work hrs. to get the percent.

The percent times the remainder of payroll after vacations, sick benefits, etc., is the figure used to find the cost of job work.

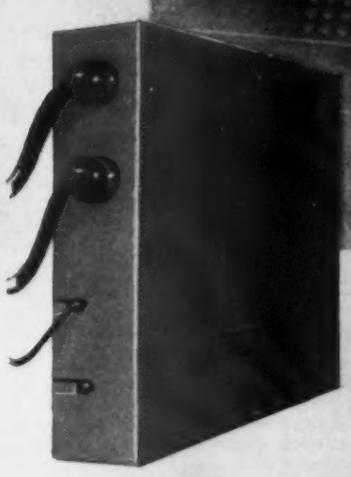
Finding Column Cost

To find the number of total columns, including art work, multiply eight times the total number of pages for the week. Divide 22 in. (length of a column) into the total number of inches which gives the number of columns. Divide the total columns into the payroll figure after job

ELIMINATE ERRORS

in Teletypesetter, Electrotypesetter

Automatic Typesetting



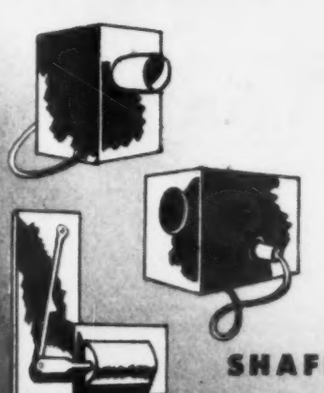
ELIMINATE *error due to bent or damaged matrices, dirty magazine, faulty keyboard cam operation*

ELIMINATE *re-runs of tape due to space band box chute clogging*

ELIMINATE *errors in proof caused by shortage of mats in channel*

The electronic brain receives impulses from the keyboard and the electric eye, and stops the machine if any mat called for is not *properly* released from magazine.

Electronic Mat Detector



Errors in automatic type setting are eliminated electronically with this amazing new attachment, the ELECTRONIC MAT DETECTOR. Now you can truely rely on your automatic machine to operate automatically . . . preventing costly resetting and machine down-time. Errors due to mechanical failures of the type setting machine are gone for good . . . the ELECTRONIC MAT DETECTOR even tells you when the linotype magazine needs cleaning or the keyboard cams need cleaning & oiling. Write for the complete story, and learn how this newest device can pay for itself quickly.

SHAFFSTALL EQUIPMENT, INCORPORATED

1408 Pearl Street, Anderson, Indiana

MANUFACTURERS AND INSTALLERS OF THE JUSTIFICATION CONTROL, ASSEMBLER SLIDE BRAKE RELEASE, TAPE REWINDER, GIANT TAPE WINDER

WEEKLY LABOR DISTRIBUTION for MARCH 2, 1950 Pages 316 + 10 = 326

ADROOM

PRODUCTIVE TIME:	"1949"	HOURS	% TOTAL	COST
A Markup	2.493	102.80	2.133	202.341
B Assembling	21.199	924.40	19.292	2372.761
D Office Corrections	2.222	60.90	1.388	170.112
F National Ad	.019	—	—	—
H Machine Composition	76.553	809.50	16.805	2066.634
K Monotype	1.071	46.50	.965	118.687
TOTAL PRODUCTIVE TIME	43.359	1955.10	40.584	4441.507
NON-PRODUCTIVE TIME:				
C Proofreading	2.432	154.80	3.213	395.173
E Store Alterations	8.818	368.10	1.642	939.904
G Pulling Extra Proofs	—	—	—	—
J Machinist	1.681	87.80	1.822	224.091
Y Utility	.821	38.65	.802	98.639
Z Supervision	.681	41.25	.980	120.532
TOTAL NON-PRODUCTIVE TIME	14.491	676.60	14.460	1118.464
NON-CHARGEABLE TIME:				
L Jobwork	.411	400	.083	10.216
TOTAL ADROOM TIME	58.478	2655.70	55.121	6785.814
TOTAL NEWSROOM TIME	41.522	2161.65	44.813	5523.606
TOTAL TIME	100.000	4817.35	100.000	12397.420

REMARKS: ~~4,638.140~~ ~~146 - 240.050~~ ~~12,398.110~~ ~~bid box - 88.690~~ ~~12,309.420~~ ~~Myers -10 216~~ 12,299.204

CAMERICA - 1950 - 1949

Makeup	$89.141	$57.386
Mark-up	196.168	153.170
Total	$281.309	$200.556

TOTAL COLUMNS (Including Art)	2668	COST PER COLUMN	$ 4.71.5
TOTAL COLUMNS (Excluding Art)	2101	COST PER COLUMN	$ 4.18.3

NEWSROOM

ALL DEPARTMENTS:	"1949"	HOURS	% TOTAL	COST
I Camerica	.430	33.20	.689	84.741
M Makeup	7.937	349.00	8.282	1018.619
N Breakup	.730	39.50	.819	100.730
O News Corrections (Machine)	1.342	86.70	1.799	221.262
P News Corrections (Floor)	1.307	86.30	1.791	220.278
Q Pulling Extra Proofs	—	—	—	—
R Proofreading	4.164	250.65	5.203	639.927
S Machine Composition	18.125	892.20	18.520	2277.811
T Dump—Handset Heads	1.439	46.90	.973	119.671
U Machinist	1.511	87.80	1.822	224.091
V Monotype	.954	43.50	.902	110.938
W Copy Cutting	.438	34.20	.709	87.201
X Machineset Heads	1.653	75.80	1.573	193.466
Y Utility	.821	38.65	.802	98.639
Z Supervision	.681	41.25	.980	120.532
TOTAL NEWSROOM TIME	41.522	2161.65	44.813	5519.020

INCHES NEWS SET	CAMERICA		19467
TOTAL INCHES SPACE IN PAPER	1760	55616	
INCHES ADS IN PAPER	253	37410	
INCHES NEWS SPACE	1507	18146	
INCHES ART IN PAPER	725	3633	
ACTUAL INCHES NEWS IN PAPER	782	14513	14513
INCHES NEWS KILLED (Or in Future Rack)			4954
INCHES NEWS KILLED (Measured)			1876
INCHES NEWS OVERSET (Measured)			361
TOTAL KILLED 1949 - 134.90 Cols @ $ 4.86.1 = $655.748; 1950 - 101.68 " @ $ 4.18.3 = $425.382			2231

Fig. 3—The composing room's Weekly Labor Distribution Report containing weekly totals of time spent on each operation taken from information given on the Daily Unit Reports (Fig. 2). Size of form is 11 in. by 8½ in. The time is expressed on this form in hours. Also listed is the percentage of time devoted to each operation of the total number of hours worked in the department on that particular week. This percentage can be compared with the figures for the corresponding week in the previous year to determine whether the time is excessive or indicates normal operation. Further explanation of this form can be found in the text under the subheading *Labor Distribution Report*.

work has been deducted to find the cost per column including art.

To find the number of total columns, not including art work, add the total inches of news set to the total inches of advertising in the paper along with the total killed. Divide the total by 22 in. (length of one column). Then divide the number of columns into the payroll figure after jobwork is figured to obtain the cost per column excluding art.

To find the number of columns killed for the week, divide 22 in. into total figure and multiply by the cost per column excluding art.

Include Magazine Section

If a magazine section is printed along with the paper on any day of the week, it also must be included on the Weekly Labor Distribution Report. For example, the report in Fig. 3 shows a total of 326 pages. Actually we had 316 pages in our financial week, but added to this are 10 pages for the magazine section. The magazine section, called *Camerica* on the *News*, for this particular week consisted of 20 tabloid size pages which are counted as 10 whole pages.

If 316 total pages are multiplied by 176 in. to the page, the result is 55,616 total inches of space in that week's papers. Also shown on the Weekly Distribution Report (Fig. 3) is the separate entry for the *Camerica* section. In this case the section amounts to 10 pages times 176 in. per page, totaling 1760 in. of space in the section.

Also the number of ads in the section has to be subtracted from the total advertising inches on Sunday, since that is the day the section appears. This gives the inches news space in the section. The art also has to be kept separate from the rest of the art in the Sunday paper. After this is deducted the actual inches of news in the paper is the remaining figure.

Taking the number of inches of ads in the section and adding the actual inches news in paper and dividing the total by 22 in. (length of a column) gives the total number of columns in the section without including the advertising.

To find the cost of setting the news and the ads for this section multiply the number of columns times the cost per column which excludes art.

The cost of the makeup of this section is found under the heading in the newsroom opposite the letter I. The cost of the makeup plus the news and advertising added together (explained above) will give the total cost for the production of this section.

Fotosetter Movie

Intertype Corporation has made a movie on the Fotosetter photographic line composing machine called *A New Era in Printing*. In the picture, Intertype shows that offset printing in the last quarter of a century has increased ten times in size, compared to a 10 per cent growth for other methods of printing in the same period. The picture also shows how the product of the Fotosetter is used in various sections of the Graphic Arts, including offset, gravure and letterpress. Examples of printed pieces using type set on the Fotosetter and Fotosetter installations are also shown. At the same time, Harry G. Willnus, Intertype President, announced that tooling for Fotosetter production has been completed.

STEREOTYPER'S SEMI CYLINDRICAL DRY MATRIX SCORCHER

MODEL "MMM"

FEATURES:

Self Conforming Cover—Direct Heat
Adjustable thermostatic heat control
Adjustable tension on cover
Automatic Timer
Uniform heat for scorching and shrinking

Floor space 31" x 28" Working Height 31"

Shipping weight—250 lbs.
Net weight—160 bs.

PRICE: f.o.b. Factory

115 or 230 volts, single or three phase

With timer.....$475.00
Without timer..... 440.00

DC—$25.00 Extra

MODEL "MMM" FORM-O-SCORCH

This machine can also be used for pre-shrinking of stereotype dry matrices

---

STEREOTYPER'S PRE-SHRINK AND FLAT DRY MATRIX SCORCHER

FEATURES:

Thermostatic Heat Control Pre-Shrink Attachment
Uniform Heat

OPTIONAL:

Scorching Timer Pre-Shrink Timer
Floor Space 31" x 28" Working Height 31"

Shipping weight—250 lbs.
Net weight—160 lbs.

Price—f.o.b. Factory

115 volts or 230 volts, single or three phase

MODEL "FC" without timer.....$250.00
MODEL "FS" with one timer..... 275.00
MODEL "FSP" with two timers..... 300.00

DC—$25.00 Extra

AMERICAN PUBLISHERS SUPPLY, INC. P. O. Box 421 • Lynnfield, Massachusetts

Change to 9 Col. Page at the Toronto Star— Economics Explained

By J. S. ATKINSON, *Production Mgr.*

Introduction

AS THE prices of newsprint soared during the period 1938 through 1952 it was a natural consequence for newspaper publishers to look for economy in newsprint consumption and in production costs. For many years it has been an established custom for newspapers to take advantage of shrinkage in the stereotyping operation. As the amount of shrinkage in this operation increased, a larger saving was effected but this could only continue at the expense of printing quality. For many years *The Toronto Star* management had given considerable study to the introduction of a high shrinkage process. The results, however, from a printing quality point of view, were in every case unacceptable to management. While the whole subject was being debated, management was fully aware that the ANPA-AAAA committees were endeavouring to agree to a standard column reduction of advertising materials from 12 ems to 11-6 ems. With the published recommendation for the 11-6 em column by the ANPA-AAAA *The Toronto Star* management realized the potential saving to be gained through the introduction of the 9-column page.

An extensive survey had already been conducted in the production departments to determine the relative advantages of 8 and 9 column pages with various shrinkages. The tests included the making of plates in 8 (12 em) columns with 6 pt. and 3 pt. column rules with shrinkages of ½ in., ¾ in. and 1 in. The tests were repeated for 8 (11 em 9 pt.) and 8 (11 em 6 pt.) columns. The same procedure was adopted for studying the 9 column page and duplicates of the above tests were made for (12 em) and (11 em 6 pt.) columns. The equipment in *The Star* production departments could readily accommodate a 9 column page without undue changes; and a study of the subject revealed other economies such as fewer rolls to handle, fewer plates to cast and fewer press units in operation than with the 8 column page. The plan adopted called for the introduction of a 9 column page in conjunction with an increase in shrinkage in the stereotyping operation. The shrinkage decided on was 1 in. in 9 columns; and once this plan was agreed to it was necessary to set up a working schedule for the entire project so that the changeover from an 8 column to a 9 column page could be co-ordinated in each of the production departments.

Advantages of 9 Col. Page

1. *Saving of Newsprint*—In the accompanying table is shown the percentages of paper saving for each of the tests enumerated in the introduction above. The percentage saving is based on the roll size of 67⅞ in. and 8 columns of 12 em width with 6 pt. column rules and ½ in. shrinkage per page. You will note that the 9 column, 11 em 6 pt. width, with 3 pt. column rules and 1 in. shrinkage, yields a newsprint saving of about 8%. Approximately the same saving can be obtained in 8 column, 11 em 6 pt. width with 3 pt. column rules and a 1 in. shrinkage, but this only results through a greater shrinkage per column with the 8 column page.
There are additional savings through a 9 column page relating to newsprint. These are:
   (a) About ⅛ (12.5%) fewer rolls to be handled.
   (b) A reduction in the number of railway cars to be unloaded.
   (c) A reduction in the number of truck loads from the railway siding to the printing plant.
   (d) One-eighth fewer rolls of newsprint to be handled in the pressroom.
   (e) A reduction in the newsprint waste.
   (f) A reduction in core handling.
2. *Saving in Production Costs*—(a) Composing Room—12.5% reduction in composing room chases, stone room and page trucks.
   (b) Reduction of 12.5% in the number of stereotype matrices handled and in the number of plates cast.
   (c) Fewer press units are required per daily issue. This permits a greater flexibility on the presses through the use of spare press units and a greater press capacity.
   (d) Less turnover in the stereotype metal.
   (e) More accessibility to equipment for repair and maintenance.
3. *Savings in the Advertising and Editorial Departments*—(a) Added page unit flexibility in makeup for both the advertising and editorial departments. Nine columns three 3 column format; or a 5 and a 4 column format.
   (b) Increased capacity for advertising and editorial content which

PERCENTAGE PAPER SAVING BASED ON 8 (12 em) COLUMNS, ½ in. SHRINKAGE and 67⅞ in. ROLL

Composition	Shrinkage (Inches)	Roll Size (Inches)	Percentage Saving in Newsprint
8 COLUMN:			
12 em columns, 6 pt. rules	½	67.875	0 (Base)
12 em columns, 6 pt. rules	¾	66.875	1.47
12 em columns, 6 pt. rules	1	65.875	2.95
12 em columns, 3 pt. rules	½	66.705	1.73
12 em columns, 3 pt. rules	¾	65.705	3.20
12 em columns, 3 pt. rules	1	64.705	4.70
(11 em—9 pt.) columns, 6 pt. rules	½	66.530	1.97
(11 em—9 pt.) columns, 6 pt. rules	¾	65.530	3.31
(11 em—9 pt.) columns, 6 pt. rules	1	64.530	4.94
(11 em—9 pt.) columns, 3 pt. rules	½	65.362	3.70
(11 em—9 pt.) columns, 3 pt. rules	¾	64.362	5.18
(11 em—9 pt.) columns, 3 pt. rules	1	63.362	6.65
(11 em—6 pt.) columns, 6 pt. rules	½	65.172	4.00
(11 em—6 pt.) columns, 6 pt. rules	¾	64.172	5.45
(11 em—6 pt.) columns, 6 pt. rules	1	63.172	6.95
(11 em—6 pt.) columns, 3 pt. rules	½	64.002	5.70
(11 em—6 pt.) columns, 3 pt. rules	¾	63.002	7.17
(11 em—6 pt.) columns, 3 pt. rules	1	62.002	8.67
9 COLUMN:			
12 em columns, 6 pt. rules	½	76.22	0.6*
12 em columns, 6 pt. rules	¾	75.22	1.9
12 em columns, 6 pt. rules	1	74.22	3.2
12 em columns, 3 pt. rules	½	74.89	2.0
12 em columns, 3 pt. rules	¾	73.89	3.66
12 em columns, 3 pt. rules	1	72.89	4.97
(11 em—6 pt.) columns, 6 pt. rules	½	73.22	4.54
(11 em—6 pt.) columns, 6 pt. rules	¾	72.22	5.85
(11 em—6 pt.) columns, 6 pt. rules	1	71.22	7.2
(11 em—6 pt.) columns, 3 pt. rules	½	71.89	6.3
(11 em—6 pt.) columns, 3 pt. rules	¾	70.89	7.6
(11 em—6 pt.) columns, 3 pt. rules	1	69.89	8.9

* Same margin size as in 8 columns—3.542 in. roll.

RELAXED

Because—

Delegates enjoy conference fellowships and absorb conference information more fully when they feel sure that things are going along all right back in the publishing plants for which they are responsible . . . It is in such hours that good organization pays off in grateful coin . . . and that includes proper equipment and fine materials, including dependable Certified Mats.

CERTIFIED DRY MAT CORPORATION

9 Rockefeller Plaza Dept. M New York 20, New York

For dependable stereotyping rely on Certified Mats

Certified DRY MATS

was not available before. The 9 column page permits the equivalent of 63 pages of 8 columns, whereas our previous limit was 56 pages in 8 columns. (The above refers to straight press runs.)

Mechanism of Introducing 9 Col. Page

1. *Planning and Scheduling*—Setting up the target date for the introduction of the 9 column page was dependent upon three considerations:
   (a) The required time for recovering the press rollers.
   (b) The delivery date for some special stereotype equipment.
   (c) The newsprint supply on hand.
2. *Equipment Changeover*—It should be noted that almost all of the equipment changes in the departments listed below ran concurrently:

Composing Room—(a) Metal base on hand was cut down to the new sizes in several stages.
(b) The chase side-sticks and footsticks were made up and re-grooved to the new column size.
(c) Approximately 12 typecasting recess molds were capped to conform to the new column width.
(d) Adequate new supplies of 3 pt. column rules and makeup materials were cast in advance.
(e) Only two typecasting slug saws needed replacement. When the target date arrived, last minute adjustments on the typecasting machines, proof presses and chases were completed. All hold-over classified advertising was re-set to the new measure.
(f) The new type fonts were distributed to the machines and the machines were adjusted for a new indenture. It had been decided to introduce a 7½ pt. Corona on an 8 pt. body in place of 7 pt. Excelsior on an 8 pt. body. At the same time it was felt that approximately 0.010 in. indention along with a 3 pt. column rule would improve the appearance of the page.

It is interesting to note that the changeover was coordinated to the extent that the composing room could have resumed production with the new 9 column width within a 24 hour period.

Stereotype Department—The stereotype department changeover presented no major problems but there was some anxiety regarding deliveries of two scorchers and two infra-red preshrinkers. The equipment was received sufficiently ahead of time to allow training periods and test runs in advance of the changeover date.

The first move was to cut new grooves in each of the casting box mandrels. This was done in our machine shop over weekends. At the same time the mandrels were being machined the casting box side bars were altered to the new page width.

As each casting box in turn was altered, the saws, of course, were kept at their old 8 column spacing which allowed production to proceed normally.

(b) On the target date weekend the last minute changeovers were minor. The trimming knives, at the upper end of the Autoshavers, were extended to trim the additional groove in each plate.
(c) Full plates were cast on the last weekend for a dummy press run.

Pressroom—The pressroom requirements were the most critical from a time standpoint of any of the departments and the target date for introducing the 9 column was based on the pressroom schedule to a considerable extent.

All of the rubber on the rollers required lengthening which involved rebuilding of the rollers. To reduce the time to a minimum the press units were stripped of as many rollers as possible and the rollers were shipped out in relays for rebuilding. As a result, for several months the pressroom was operating with a minimum of rollers and this situation existed until after the changeover date of January 19, 1953.

Some minor adjustments had to be made in about 25% of our press clips. The small amount of machine work involved was done at nights and on weekends.

Some of the changes required in the folder mechanisms and in the fudge cylinders were done in advance but most clamps on the last weekend. Some changes were purposely left for last minute adjustments. These included slitters, angle bars, formers, folders, fudge cylinders, trolleys, ink fountains and tympan changes. Since the changeover date had been purposely chosen to take effect over a weekend it was possible to fully plate the presses with new 9 column plates and test runs were completed late Sunday afternoon on January 18, 1953. After the end of these trial runs the plant was ready to operate at full production on the new 9 column page.

Conclusion

The daily issue of *The Toronto Star* for January 19, 1953 was produced without any mechanical interruptions. There were a few minor changes in each of the production departments but there were no delays. *The Toronto Star* mailing room, being fully equipped with Wallastar bundlers, required only minor adjustments on the Wallastar stop-rods, requiring less than 1 min. per machine so that the wire tie of the bundle could be re-centred. There was no change required in the advertising width requirements. Any oversize display ads that had to be taken care of were one column ads and these were placed on the outside margins. In any case, any over-size ads for the new column could always be reset, or if necessary flat cast, so as to take advantage of a slightly larger shrinkage to permit the ad to be accommodated in the new 9 column format.

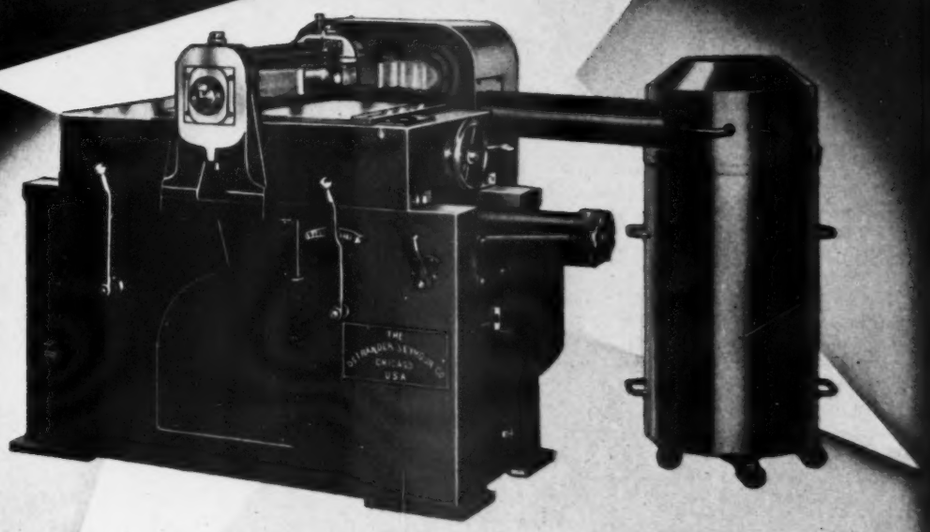
Now that the crews have been trained to the new production technique, efforts are again being made to improve the

Overset Line Stop for TTS Keyboard Operated Comet — For the Lindsay-Schaub Newspapers, Production Mgr. Harold Hoots tells *Printing Equipment Engineer* that Bob Morris, Head Machinist of the Champaign-Urbana (Ill.) *Courier* has developed an Overset Line Stop for TTS Operated Comet Line-composing Machine Keyboards. As is indicated by the name, this device consists of a safety switch to prevent the TTS keyboard operating unit from assembling lines longer than the determined measure. It is helpful when the perforator operator punches a double line in the tape or when the keyboard operating unit does not unshift when it should. In either case, without the stop, it would be necessary to remove the surplus (overset) matrices out of the assembler. Bob Morris states this device is a time saver for the monitor or machinist servicing the Teletypesetter operated machines. In order for the stop to work satisfactorily, the assembler slide clamp should be adjusted 6 pts. longer than the required measure and the clamp adjusting screw turned in to the measure. The device consists of a micro-switch *1* mounted on the back of the swinging assembler front, and wired into the safety circuit at *2* (terminals Nos. 909 and 912 on the terminal block. The switch is actuated by the assembler slide stop lever *3* through a bracket *4* welded to it, on which is mounted adjusting screw *5*.

HYDRAULIC DRIVE

HEAVIER CONSTRUCTION

ADJUSTABLE CUTTER HEAD



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Extra Profit?

SUPPLIERS TO ELECTROTYPERS AND STEREOTYPERS SINCE 1876

Never before has efficient equipment been so essential to profitable operation. Yet in many plants little attention has been given to the machinery of production, in relation to profit or loss.

Modern, up-to-date equipment increases production and reduces costs. It changes loss to profit and small profit to a more generous one.

The Ostrander-Seymour Rotary Head Plate Shaving Machine (Junior Model) is designed for present day requirements. It is as efficient as the experience of 65 years in producing equipment for electrotypers and stereotypers can make it.

If your margin is little, if delivery requests seem unreasonable, if you need better quality plates faster, write or call. Recommendations do not obligate you.

THE OSTRANDER SEYMOUR CO.

1710 N. 25th AVE. • MELROSE PARK, ILL.

Second District Craftsmen Meet — Approx. 200 Craftsmen gathered in Albany, N. Y., recently for the Second District Conference of the Intl. Assoc. of Printing House Craftsmen. The full-day's program included an educational session, exhibit and banquet. Shown here attending the Conference, from left to right, are: Harry Shaughnessy, Conference General Chairman and also Pressroom Supt., Williams Press, Albany; Brother Sabinus, Production Mgr., Ave Maria Press, Notre Dame University; Thomas Corcoran, printer and Mayor of Syracuse, N. Y.; and James J. McCarthy, President, Albany District Craftsmen's Club and also Partner, Composition Service Co., Albany.

printing quality by reducing the stereo matrix moisture content to a minimum. Over 17 weeks have elapsed since the introduction of the new format. During this period no problems arose which were different from those already described. The anticipated saving in newsprint is being effected and the advantages to the 9 column page are being realized.

Tabloid Change from 5 to 6 col. Neat Achievement

THE tabloid size Chicago *Sun-Times* on June 1 changed from a five column 12½ pica column page with 4 pt. column rules to six 11 pica columns with 3 pt. column rules per page. After the conversion had been explained by Mechanical Supt. Hy Shannon, we felt that changing page format from 5 col. to 6 col. per page and yet permitting printing the paper on the same 60½ in. width roll is a neat engineering achievement. Other improvements in the appearance of the paper have been made, one of which is an entirely new 8 pt. Times Roman dress. A change in 5½ pt. has also been installed. This new type is 6 pt. Spartan Book Condensed. It is used by the *Sun-Times* for markets, sports entries, and all composition smaller than 8 pt. The installation of matrix fonts in these two faces and sizes in the news room eliminates magazine changes and allows all news matter machines to function without interruption at edition peaks. Previously, four type faces in varying sizes had been used for the *Sun-Times* dress. Thus it can be seen that while an additional column has been introduced, the physical appearance of the paper has not been degraded. After experimentation with varying column widths, it was felt by *Sun-Times* executives that advertisements and editorial matter would have greater conformity if an 11 pica column 6 columns per page were to be used. In addition, the 6 column page would provide greater makeup flexibility. This arrangement would provide a page free from the distortion attendant upon the use of the very high shrinkage factor.

Former Page Data

To understand what was done in changing to the new format, it will be helpful to our readers to outline briefly the previous format of the *Sun-Times* page. The former page was made up five 12½ pica columns with 4 pt. column rule. A ¼ in. date line and folio were carried on the side of the page. Cutoff, 23⅜ in. Pages were 200 agate lines (14¼ in.) deep. Page width was 152 agate lines (10⅞ in.) Space between pages in form, 15/16 in. Roll width was 60½ in. With the previous page makeup a standard stereotype mat was used. Direction of ⅜ in. shrinkage, of course, was across the column.

New Page Data

Some of the details with respect to modifications of the page form itself and attendant equipment modifications in order to secure the new page dimensions are enumerated below. However, only sufficient data will be set down in this article for general explanation.

As has been mentioned above, the *Sun-Times* page now consists of six 11 pica columns, with 3 pt. column rules. Press cutoff still is 23⅜ in. Page dimensions are 11⅛ in. (156 agate lines) wide by approx. 14⅝ in. (200 agate lines) deep. Space between pages in form is 1 in. Roll width is same as formerly, 60½ in. With the new page makeup a tabloid stereotype mat is used with less than 1 in. shrinkage across the column. Columnwise shrinkage is 3/16 in.

Mr. Shannon tells us that new chases will accommodate the wider page as well as the additional page length caused by transferring the folio and date line to the bottom of the page.

Minor changes have been made in the presses. Special offset clips were installed in the Autoplate equipment to permit casting as wide a plate as possible. Special segment rings were installed in the casting boxes to permit adding the folio and date line at the bottom of the plate.

For the present, changing the roll width is not contemplated.

Closing Date Changed

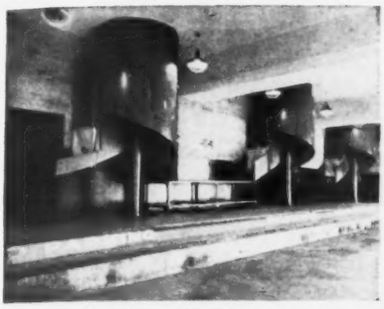
Because of change in dates for the PIA convention, the closing date for entries in the Printer's and Lithographer's Self Advertising Contest has been moved up. The PIA Convention dates have been changed to Oct. 5-8 at the Shoreham Hotel in Washington, D. C. Originally, the closing date for entries in the Printer's and Lithographer's Self Advertising contest is now 5 p.m., Friday, Sept. 11. Entries must have been produced, it is stated, between Sept. 19, 1952 and Sept. 11, 1953.

Freedman Moves Offices

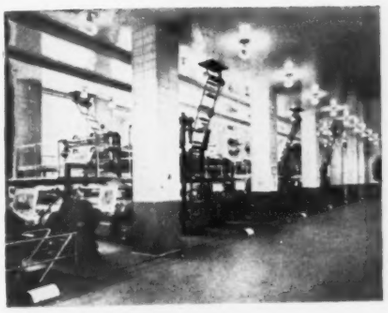
Olin E. Freedman, Graphic Arts consultant, has moved his offices to 156 E. Erie St., Chicago 11, Ill. Telephone number is WHitehall 4-1564.

Miller Presses Wrapped in Rust Preventing Paper — The Miller Printing Machinery Co. has reported the use of a Vapor Phase Inhibitor wrapping paper for protecting new presses during shipment to their destination. It is stated the paper prevents rusting of the machinery wrapped inside and eliminates the need for coating presses with rust preventive compound. Use of the paper is claimed by Miller to reduce erection time by approx. 70 per cent. Shown here is a Miller 27 in. by 41 in. TY Two-Color press encased in the paper and ready for shipment to Isaac Goldmann Co., Inc., New York, N. Y.

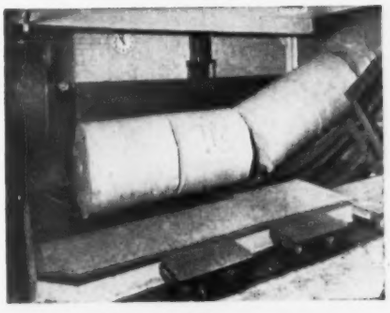
Mailroom Wire Tying Machine
Feeder Conveyor



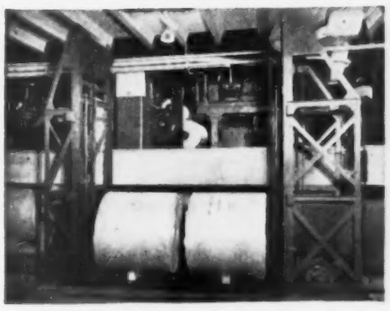
Spiral Bundle Delivery
Chutes



Stereotype Plate Conveyor
System



Newsprint Conveyor



Newsprint Tiering
Machine

JAMPOL METHODS for Handling Rolls of Newsprint, Stereotype Plates and Mailroom Products

Jampol Methods and Equipment . . . developed through more than a quarter of a century of specialized experience . . . play a most important part in the remarkable efficiency of many of the nation's leading newspaper plants.

Publishers, architects and engineers contemplating new buildings or the expansion of present facilities will find our services invaluable.

Design your building around the Jampol materials handling methods. And . . . the Jampol name has long been identified with NON-SLIP PRESS FLOORS.

Assures speed and efficiency in mailroom of Milwaukee Journal

This unit receives loose stacks of newspapers placed on conveyor by a mailer. It conveys, automatically ties the loose stacks of newspapers with top and bottom wrapper; then automatically ejects the finished bundle into a chute leading to the loading platform. This is done at a rate of 22-24 single tied or 10-12 double tied bundles per minute.

THE JAMPOL COMPANY, INC.

728-742 61st STREET, BROOKLYN 20, NEW YORK

WE WILL GLADLY DISCUSS YOUR PROBLEM IF YOU WILL WRITE US

Newsprint Track System

Non-slip Press Floor

Pressroom Ink Mist Control

By JOSEPH E. McMULLEN*

**Production Mgr., The Milwaukee (Wis.) Journal.* *Talk Presented at the Great Lakes Mechanical Conference, Columbus, January 1953.*

THE control and reduction of paper dust and ink mist in newspaper pressrooms has been the subject of continued study by newspaper executives throughout the country for the past several years. Due to the fact that there was no established pattern for this type of air cleaning equipment, each interested newspaper sparked its own research. The natural and fortunate result was the development and installation of several types of mist control equipment. We believe a thorough study of these different installations will enable all of us to achieve our goal (a clean pressroom) more rapidly. For this purpose, we will describe the air cleaning system now in use in the *Journal* pressroom and outline the results obtained.

The results are very good. Before installation of the filtered ventilation system, a concentration of 2.49 gr. of ink mist and paper dust per 1000 cu. ft. of air was obtained. With the filtered ventilating system operating, this concentration is 1 gr. per 1000 cu. ft. of air. This indicates that the amount of dust in the air has been reduced to approx. one-third of what it was before this system was installed. Room temperatures have been reduced in summer and maintained more uniformly throughout the year, adding much to the comfort of our pressmen.

In Fig. 1 are shown location of the fresh air ducts, the filter units and the exhaust ducts. The filter units which form a part of the plenum chamber, are positioned along the center line of the two press lines, immediately ahead and back of the folders. The filter units are located as closely as possible to the ceiling directly above the two lines of presses (see Fig. 2).

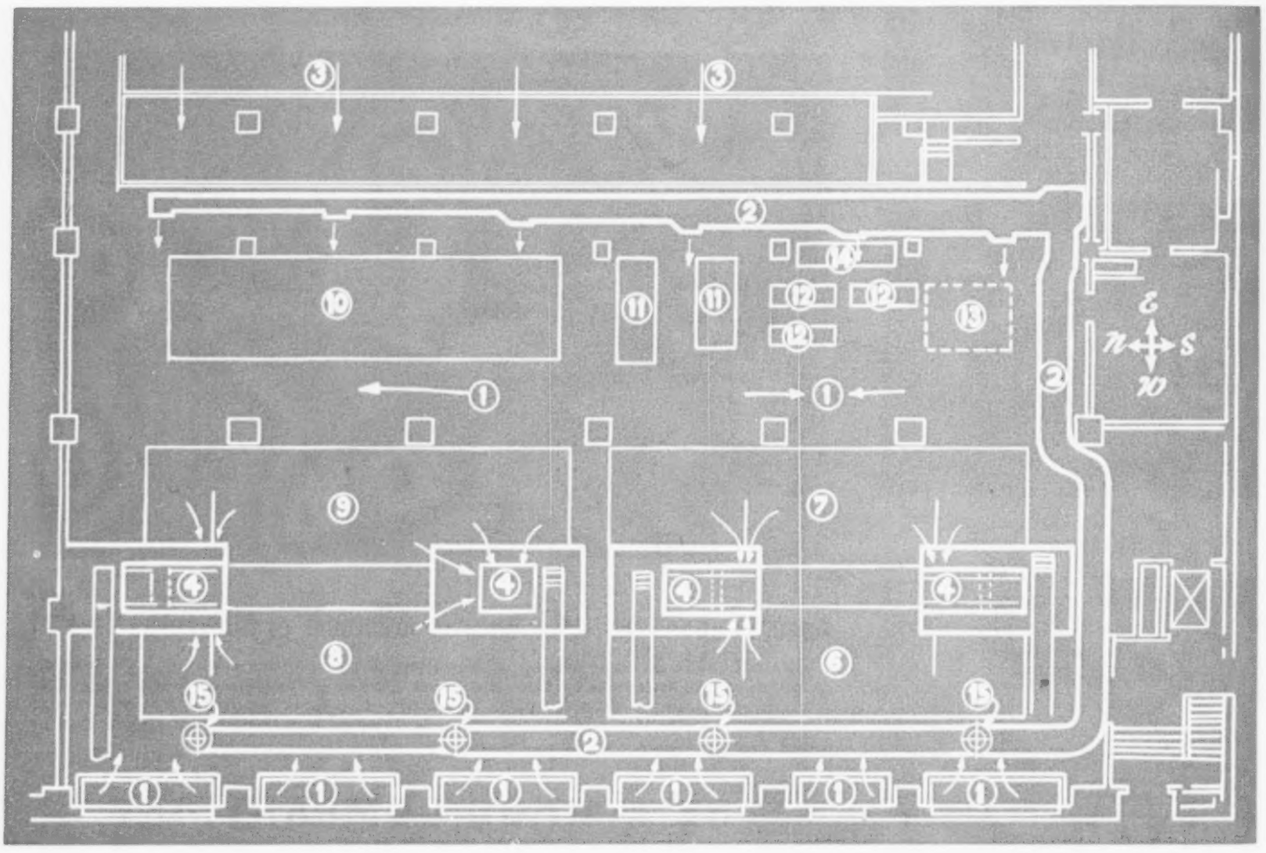


Fig. 1.—Plan view in pressroom of the Milwaukee (Wis.) *Journal*. Here are shown layout of production press equipment and the ducts for supplying the pressroom with fresh air as well as the means for exhausting the ink mist laden air from the pressroom. To orient the reader about the pressroom ventilating equipment, we will first refer him to the press production equipment itself as identified by the circled figures in this diagram:

⑥—Press No. 1
⑦—Press No. 2
⑧—Press No. 3
⑨—Press No. 4
⑩—Color press
⑪—Makeready tables
⑫—Ink roller racks
⑬—Dead plate storage area
⑭—Ink roller grinding equipment

Air is brought into the pressroom from various sources and are indicated in this diagram as follows:

1.—The arrows indicate in general the 18,000 c.f.m. flow of air brought in from the basement, through the reel room beneath, openings in the floor under the press units, through the press units, and then, in general, upwardly through the pressroom to the exhaust-filter ducts *4*.

2.—Indicates duct work through 12,000 c.f.m. of air is brought to the pressroom from a fan housing on the building roof. These ducts are considerably below ceiling level.

3.—Air (5000 c.f.m.) is brought into the pressroom on the East side from the mailroom.

4.—These are the filter suction chambers through which pressroom air is exhausted to the outside atmosphere. The filters trap the suspended ink particles in the air exhausted to the outside of the building.

15.—Indicates anemostats (1200 c.f.m. each) which regulate the flow of air into the pressroom and are part of the central air supply system.

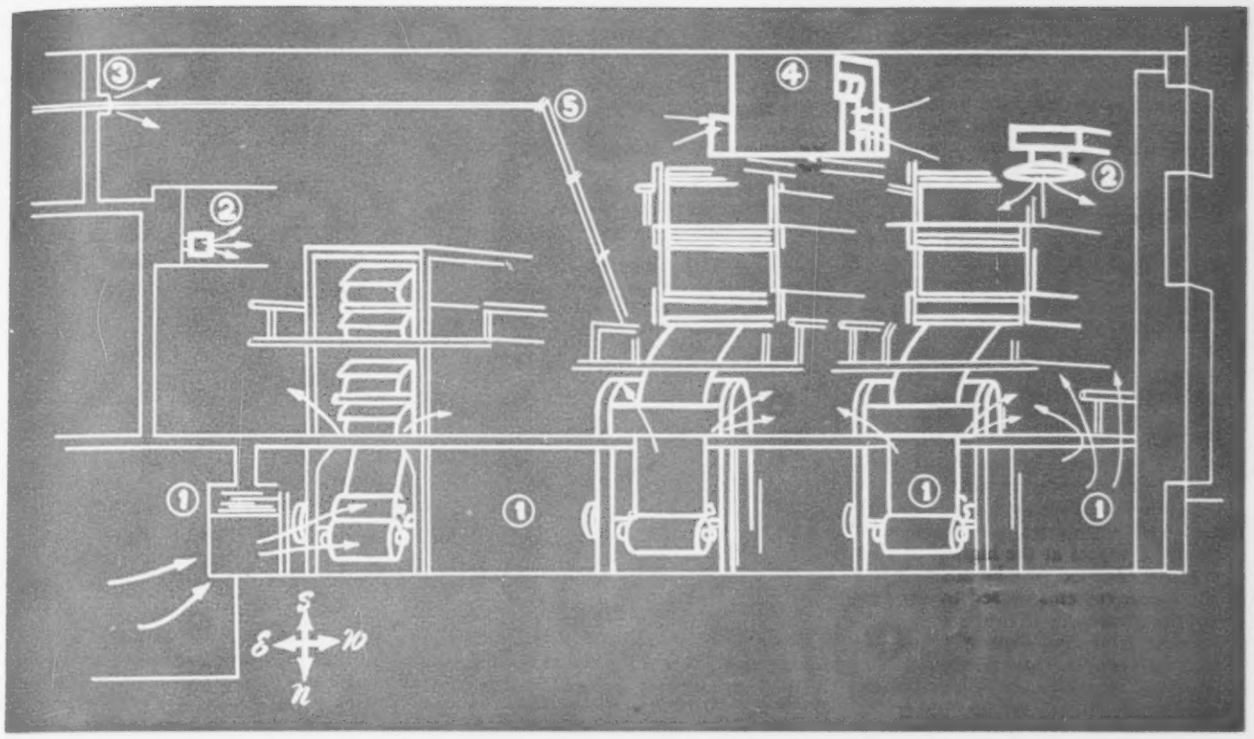


Fig. 2.—In this diagram is shown the East-West elevation of the Milwaukee (Wis.) *Journal* Pressroom and Reelroom. Shown by the circled figures are the sources of air intake and the exhaust for drawing off the ink mist laden air while the presses are in operation. At *1* is indicated the general source point of 18,000 c.f.m. of washed air from the basement, the air flowing through the reel room, upwardly through the floor and the press units, and then continuing its generally upward flow through the pressroom to the exhaust system *4* where the air is discharged from the building into the atmosphere. At *2* and *2* are shown cross sections of the pipes from the fan housing on the building roof through which are brought into the pressroom 7200 c.f.m. fresh air. From the mailroom, ducts along the entire East wall *3* bring 5000 c.f.m. into the pressroom. It should be explained that the Cutler-Hammer conveyor indicated at *5* does not extend into ducts *3* but does pass between them. As the pressroom air is withdrawn (40,000 c.f.m. through ducts *4*, (there are four filter cabinets extending from North to South), it is filtered to trap the ink mist, but the air is discharged from the building into the outside atmosphere. A total of 30,000 c.f.m. of air is forced into the pressroom, while 40,000 c.f.m. is exhausted from the room. The other 10,000 c.f.m. is supplied to the pressroom through leakage from other departments and outside entrances.

Each of the four air cleaning units shown here are equipped with two automatic air mat filters. Each filter has a capacity of 5910 c.f.m. or a total filter capacity of 47,280 c.f.m. Each unit has one exhaust fan with a capacity of 11,300 c.f.m., giving a total fan capacity of 45,200 c.f.m.

Two-ply air mat filter paper is used. This filter is 92.5% efficient. Each roll contains 400 ft. of filter paper and lasts approx. 5 weeks. The eight filters require about $25 worth of filter paper per month.

The Filtering Unit

Plenum chambers referred to are actually filter exhaust chamber, for the purpose of building up air suction within the chamber for automatic movement of the filtering curtain through which the air must pass from the pressroom to the outside exhaust duct. The filter is equipped with an endless stainless steel meshed wire belt rotating over horizontal top and bottom rolls in a vertical frame. The filtering material is paper-like cellulose tissue wound in continuous roll form. The new roll of filter paper is mounted on brackets at the top of the filter frame or casing and is moved downwardly with the wire belt. The used filter paper which has collected the dust and ink particles (ink mist) is re-rolled on the lower roll.

The steel meshed wire belt is rotated by a fractional horsepower motor operating through a gear reducer and chain drive and is controlled by a pressure switch. As the filter paper curtain becomes loaded with dust and ink particles

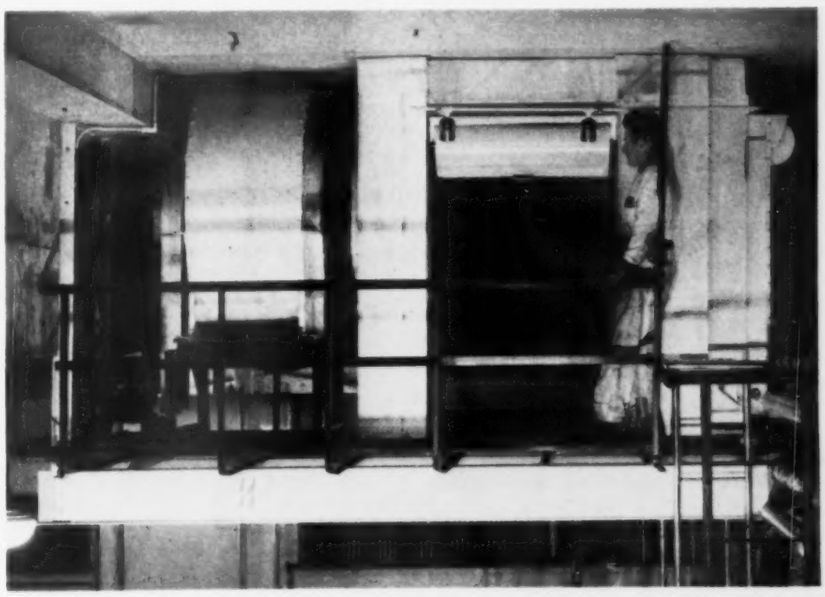


Fig. 3.—View of one of the plenum (exhaust) chambers (right) with air filter unit. At left is motorized fan which pulls the mist-laden air from the pressroom through the filter curtain into the plenum chamber and delivers it outdoors through an exhaust duct.

it offers more resistance to the air flowing through it. When this resistance has increased to the point at which the pressure switch has been set, it closes the electric circuit and starts the drive motor which rotates the belt carrying the filter paper. After sufficient filter paper has been rolled along the curtain to cause the resistance to be reduced to the proper level, the switch automatically opens to stop the motor. The filter paper curtain remains stationary until the resistance due to loaded paper again reaches the pre-determined high point.

The fresh air ducts, Fig. 1, are located on two sides of the room considerably below the ceiling level. These ducts supply approx. 12,000 c.f.m. of cooled, fresh air. Another 18,000 c.f.m. of washed air is supplied to the reel room along the entire East wall. By supplying cool, fresh air to the reel room and at the low level positions indicated in the pressroom, and exhausting air immediately above the presses at the highest possible point, we planned to take advantage of the thermal currents caused by the heat from the presses.

A few facts and figures about the equipment itself are given as follows:

Approx. 45,000 c.f.m. of air is exhausted from the pressroom, and 30,000 c.f.m. is supplied to the pressroom as previously indicated. The balance of the air is supplied to the pressroom through leakage from other departments and outside entrances.

The cubic content of the combined pressroom and the reel room is approx. 262,000 cu. ft. The large volume of air exhausted from this room results in 10.34 complete air changes per hr. or one air change every 5.8 min.

Only filtered air passes through the exhaust ducts. This eliminates the fire hazard caused by dirty exhaust ducts and reduces maintenance. The high efficiency of the filter makes little, if any, cleaning necessary. Actually, none of our exhaust ducts or plenum chambers has been cleaned since installation in January 1951.

Fig. 4.—View inside one of the plenum (exhaust) chambers which has not been cleaned since installation over two years ago. The maintenance man is inspecting the small motor which operates the filter paper curtain. The filter paper is mounted on a roll at the top, travels downwardly and is rewound automatically when the motor is actuated by a pressure switch.

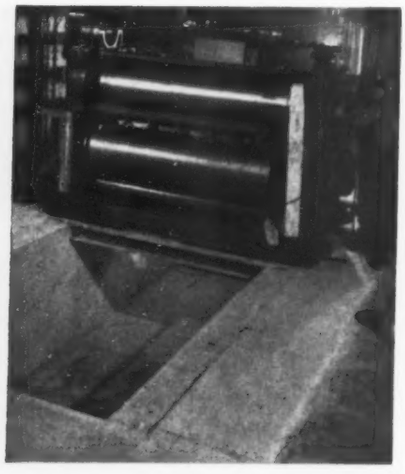
The only fire hazard remaining is the filter itself and this is protected by automatic CO_2 fire extinguishing equipment installed so as to automatically blanket the complete filter unit on a rapid temperature rise of 20 deg.

View inside one of the plenum chambers is shown in Fig. 4. Note the condition of this plenum chamber which has been in use for two years without cleaning.

While we have tried to develop an efficient pressroom air cleaning system, we do not want to give you the impression that such a system is the only corrective measure that warrants attention. Every effort must be made to minimize this trouble at its source.

As excessive paper dust and ink mist are the chief sources of trouble, they naturally get first attention. However, there are many possible contributory causes that require equal consideration. I need not elaborate on these.

Fortunately, pressroom procedures that produce good printing also tend to minimize ink mist. These pressroom procedures are a source of continuous study and experimentation by all of us and I would like to say that here again a thorough study of the results of these different experiments would be beneficial to all.



Concrete Pit Supports Press — Shown above is the concrete pit constructed in the plant of the Veritone Company, Chicago, for anchoring newly installed 42 T. two-color press. The reinforced concrete foundation is designed with 12 in. thick walls—is 7 ft. wide, 30 ft. long and 4½ ft. deep.

Vandercook's Eastern Office

A larger eastern branch office has been opened by Vandercook & Sons, Inc., in New York, N. Y., at 323 E. 44th St., according to E. O. Vandercook, President.

E. O. Vandercook announces a larger eastern branch office in New York City for Vandercook & Sons, Inc.

The move is part of a program of expanding sales and service facilities and other domestic and foreign pre-press equipment to be sold by Vandercook. The new modern office has 5000 sq. ft. of floor space. Most of this space will be devoted to equipment demonstrations including a Quality Control Room where pre-press methods and materials will be shown. Another section will show the latest makeup and lockup methods. Roy H. Sandvik is Vandercook's Eastern Mgr.

Ginsberg Named President

Charles W. Ginsberg has been named President of the Babcock Printing Press Corp., Canton, O., printing press manufacturers. Ginsberg is a graduate mechanical engineer. He has acted as consultant for the Printing, Publishing, and Television Industries. Prior to that he was Chief Production Engineer for Triangle Publications Inc., Philadelphia. He was manager of sales for nine years in the Middle-west territory for R. Hoe and Co., Inc., having joined the engineering staff in 1922. Mr. Ginsberg, who is 52, has a number of printing press patents in his name and during his association of 30 years in the publishing industry has been responsible for a number of developments now in use by many printing plants. Ginsberg has announced it is his intention to widen the scope of press design and manufacturing, offering the publishing industry a full line of printing equipment.

"SCAN-A-GRAVINGS save pressroom time for us in getting out the paper!"

says *Vicksburg, Miss., Post-Herald* mechanical team

"We're very conscious of potential delays in the pressroom," says John Boa (right, above), mechanical superintendent of the *Post-Herald*. "Scan-a-gravings help eliminate some of them. That's why we like these plastic engravings.

"For instance, the composing room doesn't have to hold forms waiting for advertising or news cuts. When a page is made up it can be stereotyped right away. Then the Scan-a-gravings can be mounted after the stereo is on the press. This smooths out the work and gets things done faster."

Pressroom Foreman Gives His Reasons

C. T. Beasley (left, above), pressroom foreman at the *Post-Herald*, has these nice words to say about Scan-a-gravings. "The time it takes to mount Scan-a-gravings on stereos is not important because mats come from the composing room in a steady stream rather than a rush. So we have more time to cast stereos right and then put the Scan-a-gravings in place.

"Advertising cuts are no problem because of the even flow of mats from the composing room. That gives us plenty of time to position these Scan-a-gravings properly. The advertisers like the quality that direct printing provides, which makes any necessary extra effort worthwhile.

"Printing Scan-a-gravings direct is simple and gives good quality reproduction. We have run lots of Scan-a-gravings up to 220,000 impressions without showing signs of wear.

"All in all, it's a good feeling to know that these plastic engravings make our work easier, and give us a paper with real high-quality illustrations in it."

● **Scan-a-gravings are made on the Fairchild Scan-a-graver,** an electronic machine for making plastic halftones. Get the full story about how this revolutionary tool can help solve some of your mechanical problems by writing today to *Fairchild Camera and Instrument Corporation, Syosset, Long Island, New York, Department 100-57E.*

FAIRCHILD
SCAN-A-GRAVER

Warnecke High Speed Color Process

THE Warnecke High Speed Color Process is designed to make it possible to reproduce a set of photoengraved color plates from set of continuous tone color separation negatives in five hours. At the moment, Mr. Warnecke is considering making the process available to both photoengravers and offset platemaking establishments. While the process is applicable both to the offset and engraving processes, we will discuss it from the photoengraving standpoint. It is said to facilitate the making of process color printing plates at greater speed and lower cost than previously. The process, upon which a patent has been granted (No. 2,577,984) was developed by Harry W. Warnecke, Manager of the N. Y. Daily News Color Studio.

In the photoengraving field, it permits obtaining color proofs before the plates are made. In other words, it is part of the purpose of the process to permit approval of a full color proof by editors, art directors, the customer and/or the photoengraving executive before the engraver proceeds with the making of the plates. Usually, the engraver doesn't know exactly what he is going to get until after a set of finished color process plates have been proofed with ink on a proof press.

In sketchy outline, the process consists of the following operations:

The continuous tone color separation negatives are made by the photoengraver in the usual manner. The continuous tone separation negatives are then projected onto a special gelatin film through a conventional Levy halftone screen. Normal screen angles and screen distances are used. The special positive films (one for each color) are developed. In this operation all the unexposed gelatin is washed off the film leaving the hardened (or tanned) halftone dot images on the film. The positives (one for each color) are then bleached (that is, the silver particles are washed away in a bleaching bath) leaving the clearly transparent hardened gelatine dot image on each film.

The next operation is to apply a dye (red, blue, yellow or black) to each film. When the dye is applied to each transparent film it is absorbed by the clear gelatin dots, the dye making visible the halftone image for each of the color positives.

After the red, blue, yellow and black positives have been made, they are superimposed in register on cardboard or sheet of paper which matches the color of the paper on which the printed job is to be done. Thus, if the job is to be printed on Kromekote, the positives are laid on Kromekote. If the engraving is to be reproduced on newsprint, the positives are mounted on the shade of newsprint used in the paper's regular production.

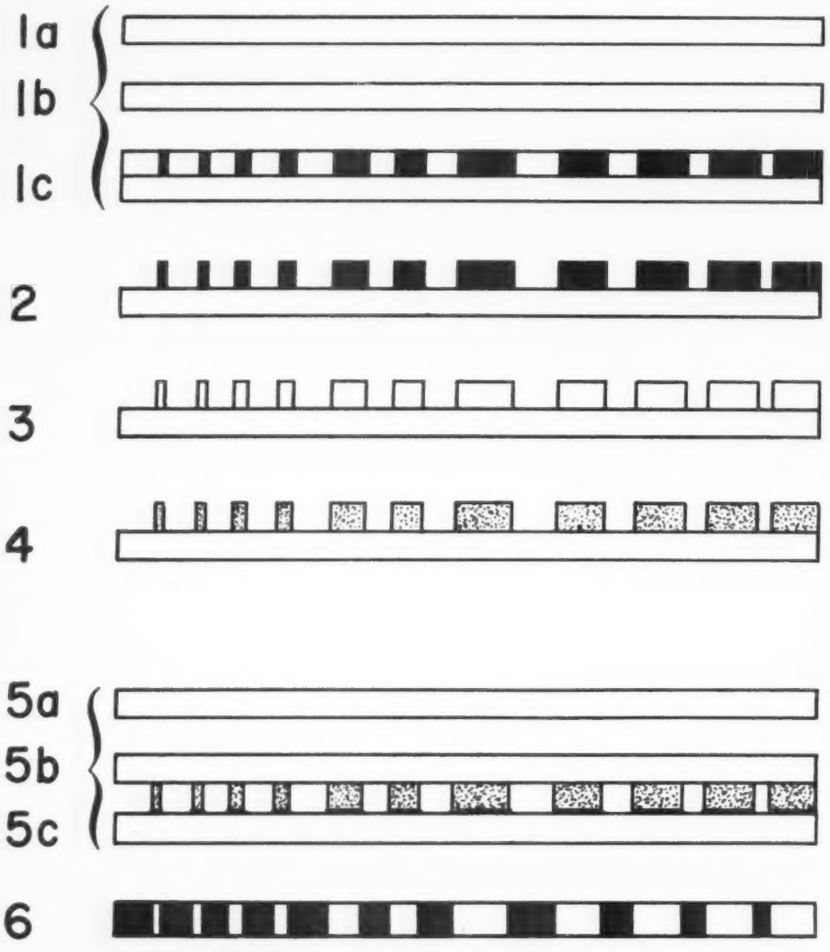
The superimposed set of color halftone positives forming the complete reproduction may now be checked for color balance with the original copy. Since the superimposed halftone positives show the color values which will appear in the printed work, any variations in color balance can be corrected by making a new lighter or heavier separation halftone positive of any particular color. For instance, if the subject is a woman's portrait and there should be too much or not enough red in her lips, making a new positive will correct the color imbalance.

Thus it will be seen that the approved proof is used in holding the color balance of the dot patterns on the metal.

After the proof has been approved, the set of halftone dyed positives are exposed in contact (through filters) with a high contrast panchromatic film to produce the photoengraver's halftone negatives. These halftone negatives are then printed by the engraver on the engraving plate stock in the usual manner.

One of the important features of the process is that Mr. Warnecke intends making available dyes which will match the inks used in printing from the plates.

(*Continued on Page 116*)



The Warnecke High Speed Color Process.—Diagrammatic explanation of operations in producing positive color proof for approval before photo-engraved plates are made, and for the making of halftone negatives in color process work. This process may also be used for making offset color process plates.

At *1a* is shown the photoengraver's continuous tone color separation negative.

At *1b* is shown the standard halftone screen.

The halftone positive produces from *1a* and *1b* is shown at *1c*.

At *2* the (unexposed, hence unhardened) silver and gelatin have been washed away in a bath from between the halftone dots (non-image surfaces).

The silver particles have been removed from the gelatin dots as shown at *3*, leaving the dots transparent and practically invisible.

Here at *4*, the halftone dots in the positive have been treated with a dye (red, blue, yellow or black—there is, of course, a positive for each color). Only the gelatin halftone dots will accept the dye. The positives are dried.

The vari-colored positives are now superimposed one upon the other in register on a white background, preferably of the exact shade of the stock upon which the color process engraving is to be printed. If any color is out of balance, the engraver shoots a new screened positive of the unbalanced color separation to correct that condition. The new positive is placed in position and the incorrect positive is removed. If the color balance is satisfactory, each of the screened positives in the set is now ready for the engraver to make contact halftone negatives through color filters from these proof positives.

Making Halftone Negatives.—At *5a* is indicated the filter through which the halftone screened positive *5b* is exposed in contact with the process panchromatic plate or film *5c*. This is the halftone negative *6* which is printed on the metal stock.

when the subject of BETTER INK comes up...

Who will have the information? No A. N. P. A. Mechanical Conference is complete without a discussion of this important factor in newspaper publishing.

You'll find a man at the Conference who's got the story on ink – the kind of ink that will give your paper a clear, clean-cut, attractive appearance. He's the Herrick representative.

He's the man who can tell you how and where to get an individualized news ink, compounded to suit just *your* pressroom conditions. Obviously, such an ink should be better. Awards won by Herrick users is testimony that it *is* better.

So when the subject of *better ink* comes up – the *Herrick Ink man* will have the information you want. Look him up at the Conference.

to suit your pressroom conditions

HERRICK Inks

William C. Herrick Ink Co., Inc.
Main Office & Plant
EAST RUTHERFORD • NEW JERSEY

4082

Polor-X Color Correction Method

By GEORGE JOS. LENZER

POLOR-X Color Correction is a method of color reproduction introduced to the Graphic Arts by Dr. Noble E. Stephens, a retired brain surgeon, and head of the Polor-X Corporation. Primarily developed for the lithographic industry, this method is equally adaptable and advantageous to the photoengraving industry.

In principle, Polor-X procedure is similar to the gravure carbon tissue process, in that exposure to a combination of a continuous tone negative or positive and a cross ruled screen is employed by which the printing image is produced.

Polor-X, photographically and on special photographic plates, is said to be the means for producing a fully corrected set of continuous tone negatives of varying densities covering a long range of tones from absolute dropout to a full solid.

For color separations, Polor-X No. 1 Panchromatic plates are used, and the Polor-X No. 2 Perfector plates are used for the continuous tone positives and masks. Both types of plates are of limited density, coinciding exactly with full densitometer readings. With a reduced silver content, the emulsions of the Panchromatic plates are very fast and extremely color accurate.

In using the Polor-X method of reproduction and color correction, a densitometer is an essential requisite. This is important, because Polor-X is a semi-automatic method which demands accuracy and precision in all vital factors.

According to Dr. Stephens, the most satisfactory Polor-X separation negatives have a densitometer reading of 2.1 to 0.3. Negatives in this key provide great latitude in the halftone projection.

Gray Scale and Color Swatches

It is important that a photographic gray scale and color swatches be attached to the original art work before color separation negatives are made. The recorded images of these two elements prove the accuracy of the color separation and correction.

Because of the natural imperfections in color pigments appearing in original art work and color transparencies, it is evident that these, coupled with imperfections in lighting will record certain percentages of unwanted color in at least two of a four color set of separation negatives, *i.e.*, the yellow and the red.

To correct these imperfect color recordings in the negatives, corrective continuous tone masks are made by contact printing the red and blue panchromatic separation negatives to Polor-X No. 2 Perfector plates, producing weak or light tone continuous tone positives. For additional correction of the yellow separation negative, another contact positive of light tone is made on film exposed to the blue separation negative.

Reason for the film mask is, that it is used in combination with the glass mask made from the red negative, to fully correct the yellow separation negative.

The combination of red and blue masks is equivalent to a violet filter in that they cancel out or reduce the percentages of red and blue recorded on the yellow separation negative. The blue mask on the Polor-X No. 2 Perfector plate is used to correct the red separation negative. Masking of the blue and black negatives is not required.

Correctly balanced and corrected separations will show the full gray scale, with a densitometer reading of 0.6 to 0.1, and each separation plate or masked assembly will show absolute blanking of unwanted color in the recorded color swatch images.

Polor-X Halftone

The word Polor is derived from the word Polorization. It implies that the halftone screen, cross ruled or magenta contact, serves as a polorizing screen in the production of the halftone image.

It is in this instance that the similarity of the Polor-X method and the gravure carbon tissue procedure exists, with this exception that the Polor-X method employs the camera instead of the vacuum frame in achieving its results.

It is important to note here, that the Polor-X method takes on an automatic application. This means that all operating parts and complements of the photographic equipment be geared to the highest degree of accuracy.

The lighting equipment must be so balanced as to provide even temperatured illumination in all operations.

All movable and adjustable parts must be accurate to all readings and settings. Example: A diaphragm opening of F/16 must be F/16 and not F/11. A required screen distance of 5⁄8 in. must be exactly 5⁄8 in.—no more, no less.

Proper illumination of the continuous tone negative or positive must be by direct flat lighting and not by reflected light. This because of the high key density of the Polor-X plates and the necessary light diffusion during exposures.

In the Polor-X method of halftone production only one diaphragm opening is required for all halftone exposures. Highlite, middletone, shadow and flash stops are not needed.

Like in the gravure process, dot size is governed by the tonal graduations and densities of the continuous tone image and not by the exposure to the cross ruled screen.

There are no square dots or checkerboard effects in the Polor-X halftones. All printable dots are round from the finest needlepoint highlight dot to the largest shadow dot area.

The correct diaphragm opening must be determined by test and experiment until the critical point or setting is reached. This critical point will be found somewhere between F/16 and F/22, and can be determined by the degree of perfection in the color range and printability of the dot formations, in the positive image.

Once the critical point is found, that particular diaphragm opening will be the automatic setting for all Polor-X half-tone positives, regardless of size or dimension of the finished job impressions.

Screen rulings used with the Polor-X method will range from 110, to 120 and 133 lines to the inch. Finer rulings are not adaptable at this time.

Polor-X Function or Purpose

The function or purpose of the Polor-X method is to reproduce in three basic primary colors the colored art copy. Positives for these three colors must be full in value and tonal range. The black positive, being used only to accentuate certain shadow areas and details, need only to be a weak, ghost like, skeleton image composed of solid, dense printable dots where they are required.

It must be remembered that a gray, weak or ghost dot will not print or register on the printing plate, or sheet.

Halftone Projection

All halftone positives are made with the photographic film in direct and absolute contact with the halftone screen during the major part of the exposure. This procedure is important to the Polor-X method in that it eliminates the need for opaqueing and staining, and

(*Continued on Page 114*)

4000th ATF Chief Press Installed—The 4000th Chief 22 offset press to be made by American Type Founders was recently installed at the Princeton Printing and Publishing Co., Princeton, N. J. Owner of the Princeton firm is Fred Van Deventer, radio newscaster and panelist of the Twenty Questions show. Shown looking the new press over, from left to right, are: Lester Dodge, Plant Foreman; Mrs. Van Deventer, known professionally on radio and television as Florence Rinard; and Van Deventer.

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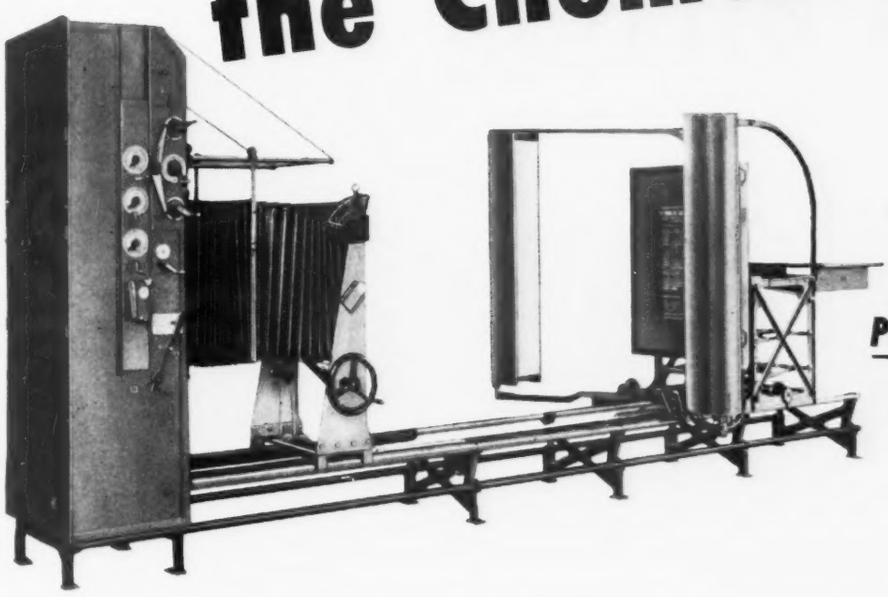

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Pacific Craftsmen's Conference

Clinics on typography, offset lithography, silk screen and new developments will highlight the 28th Conference of the Pacific Society of Printing House Craftsmen's clubs. The Conference is to be held at the Huntington Hotel, Pasadena, Calif., July 16, 17 and 18. Speakers at the typographic meeting will be Richard Hoffman, Instructor in Printing, Los Angeles City College; A. R. Tommasini, Superintendent, University of California Press; and Paul Giesey, Advertising Typographer, Portland, Ore. The offset clinic will hear Ernest Jones, Head of Graphic Arts Corp. of Ohio; Peter D. Nielsen, Director of Research, Moore Business Forms, Inc.; and Karl Hoffman, Color-Tone, San Francisco. A panel composed of representatives of Durochrome Corporation, Los Angeles, will participate in the silk screen discussions. The scheduled speakers for the New Developments Clinic are M. C. Graham, Reilly Plastictype Co., Los Angeles; Harry Porte, Mergenthaler Linotype Co.; and Larry McCollum, Western Tag & Label Co., Los Angeles.

Carlisle Centennial Year

A. Carlisle & Co., San Francisco printers and lithographers, is celebrating its centennial year in 1953, according to an announcement by Burlington Carlisle, jr., Executive Vice Pres. The company will shortly publish a 50 page book describing its growth and commemorating a century of service. The West Coast firm is now under the management of the founder's eldest son, B. M. Carlisle, President. In its centennial year, the Carlisle organization consists of 400 employees and services 10,000 accounts from its modern, four story plant. Production includes all kinds of commercial printing and the specialized manufacture of county and municipal forms and election materials.

Scholarship Award—William Okano (left), a student at the Los Angeles Trade Technical Junior College, receives the H. F. (Bunny) Edmonds Memorial Scholarship Award from Cyril C. Stanley, President of the Los Angeles Craftsmen's Club. The presentation was made at the recent Graphic Arts Award dinner held in Los Angeles.

IPI Fluorescent Inks

Supplemental to the information presented in the May 1953 issue of *Printing Equipment Engineer* on fluorescent inks for letterpress printing, the Printing Ink Div. of Interchemical Corp. has stated that it does not recommend the use of fluorescent colors where permanence is required. Referring to the first use of this ink on the cover of a recent issue of *Popular Science Monthly*, IPI states that since many covers are displayed in show windows and other exposed locations, the fluorescent red in this case is underprinted with a conventional red ink. This was done so that the cover design would remain colorful even after complete fading of the fluorescent ink film.

Advance Courses at RIT

To meet changing demands for graduates qualified in both letterpress and offset areas of printing, Rochester Institute of Technology's Printing Dept. will make available to regular, full-time students advanced work in both areas, with some election of courses for advanced work. The program has been designed to aid RIT students in acquiring a more broadened education in printing since many printing establishments have become combination shops. The new plan, in addition to the emphasis on technical and general education courses, will provide improved coverage in the area of management.

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HSCo Buys Macey

Purchase of the Macey Mfg. Co. by the Harris-Seybold Company was announced early in May by George S. Dively, President of Harris-Seybold. Both are Cleveland firms. Assets of Macey Mfg. Co. were acquired by the Macey Company, which was set up as a wholly owned subsidiary of Harris-Seybold. Macey specialized in the design and manufacture of new types of sheet gathering and handling equipment, primarily collating machinery, but will now also serve as a flexible project center for some of Harris-Seybold's development work in lighter Graphic Arts equipment.

No. 2

Makeready Meeting Research and Engineering Council

The No. 2 Makeready Meeting, sponsored by the Research and Engineering Council, will be held in October. The meeting will take place at the Sheraton-Gibson Hotel, Cincinnati, O., on Oct. 1, 2. Makeready for the letterpress, offset and gravure processes will be discussed. Special attention will be paid to makeready procedures for the smaller or average size plant. The first meeting Chicago last winter drew an attendance of 500 executives. Since then there has been an insistent demand for another meeting. Full information may be obtained through the Research and Engineering Council, 719 Fifteenth St., N.W., Washington 5, D. C.

Correction

In the April issue of *Printing Equipment Engineer* it was stated there was a prepublication price of $5 list (less 40% to members) and $10 to LTF members, for the book *Chemistry of Lithography*, by Dr. Paul J. Hartsuch. The book was published in January this year. The prepublication price offer expired before that time. The book may be ordered direct from Lithographic Technical Foundation, 131 E. 39th St., New York 16, N. Y.

Miller Purchase Reported

The Miller Printing Machinery Co. has announced the purchase of the Kerotest Mfg. Co. of Pittsburgh, valve producers. All Kerotest preferred and common stock has been acquired by the Miller firm. R. B. Tullis, President of Miller, stated that Kerotest will be operated as a separate company.

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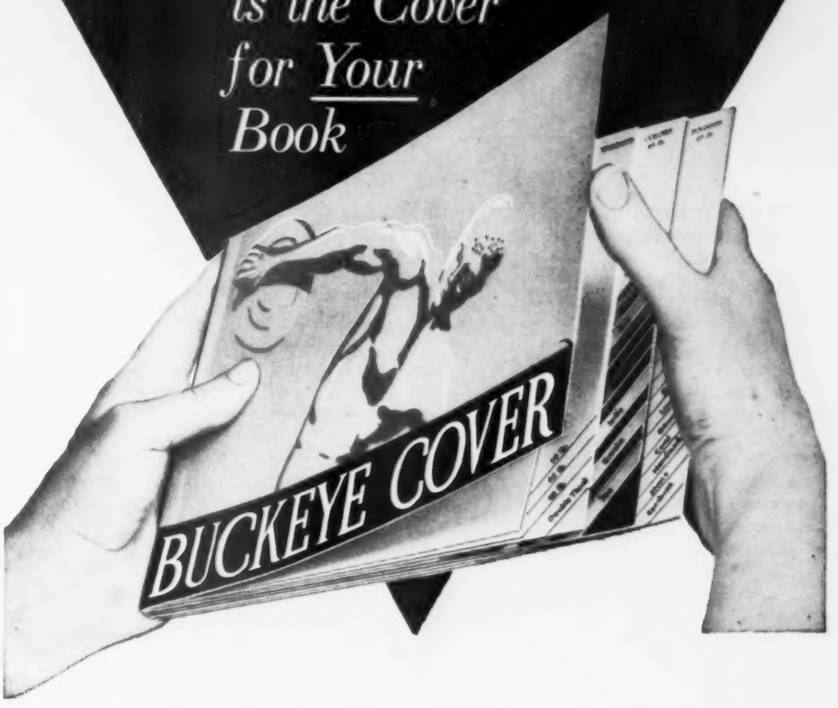

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By AXEL LUNDBYE

V.

THE first step in processing the Aller plate is to strip the unwanted copper. To do that, the plate is placed in a sink, and the edges are washed in an R-3-S etching solution. (Be careful at this time to not get any of the etching solution on the image area.) As soon as steel color starts to show at the edges of the plate, then pour etching solution over the whole plate, and be sure the whole plate area is covered. Then rub it with a cotton pad. When the etching solution starts to show a dark color, add more solution. When all copper has disappeared from the image area, the etch is quickly and thoroughly washed off. The total time for this etch should never exceed 2 min. If it seems to the operator that the solution works too slowly, add some more, because speed is essential here. After the etching solution is washed off the plate, flush with the above mentioned dilute acid solution and rinse plate completely under running water. At this point, it will be found that some copper remains around the edges. This copper can be removed by a cotton swab fastened to the end of a stick dipped in concentrated nitric acid. Bear in mind that the fumes from the acid can attack the copper in the printing area. So use the swab with care, especially around highlight screen areas. Be absolutely sure that the plate is dry before giving it the treatment with concentrated nitric acid. If it is not dry the acid will follow the dampness on the plate, and will spread.

Now the plate is given a thorough washing under running water to remove all traces of acid. It is then gummed up. Asphaltum is applied. It is now ready for the press or storeroom. Should it be necessary to add some additional copper anywhere on the plate, it can be accomplished with a method known as brush plating. For this process a small rectifier such as is manufactured by Cambosco Scientific Co.'s Combosco Universal Low Voltage Sub-station can be used, which is the most practical way of doing it. However, two dry cell batteries connected in series will do the job. They will not give a constant flow of current, however. The area to be plated in this manner is cleaned with very fine pumice powder. Remove the pumice. Then connect the positive terminal from the rectifier any place on the plate, and connect to the negative terminal a piece of carbon wrapped in a cloth. Dip the carbon and the cloth in a cleaning solution (Aller's formula), and rub the area to be plated with the cloth on the carbon. Finally, dip the cloth in a concentrated copper sulphate plating solution and move it over the area to be plated on the printing plate. Continue this operation until a sufficient amount is built up. When it is at the thickness required, pumice and water is used to rub the area which has just been plated. Then asphaltum is applied in the design desired on the plate, the copper is etched away, and finally the asphaltum is removed and the copper inked up.

When we visited Aller, Ltd., in Copenhagen, President Claes Aller kindly showed us his printing plant which is an exceptional one. It is not large by American standards, but it is laid out well, and is modern in every respect. The original plant was destroyed by the Nazis. However, some of the old plant was rehabilitated, such as his power plant and part of the old paper mill. In the pressroom, there was an Aller-Vomag press designed and built by Aller and his engineers, with Fritz Wolff as the consultant. Mr. Wolff was chief engineer for Vomag Press in Plauen, Russian Zone, Germany. Wolff and most of his technical staff are now located in Nurnberg with Fruhwald & Jaeger. This company is now designing and building the Vomag type web offset press. However, we should be talking about printing plates.

We prevailed upon Mr. Aller to show us how one of his printing plates was produced. In the main, it was done as detailed above. But we were interested in finding out how much time it took to produce one plate. Consequently, we were taken to the platemaking department. Here a yellow plate from a four color job was just ready to go through the process. The plate was 41 in. by 55 in. It was copper plated and ready for the resist. Because of the size of the plate, it was necessary for two men to handle it. We put a stop watch on when the operation started, and here is the time:

Cleaning and coating	4 min.
Drying	15 min.
Exposing	7 min.
Developing, etching and inking	32 min.

In a total of 58 min. the plate was ready for proofing. We went to the pressroom to view a set of two and four color plates running on the Aller-Vomag press. It was a pleasure to watch the plates in operation. The speed of the press was approximately 680 f.p.m. The press had no drying equipment, and it was evident that the plate ran clean in the non-printing area. To put it another way, there was no evidence of scumming, greasing, nor stopping of the press to gum up the plate. When one paper roll was run out, the press was stopped as there was no flying pasting equipment on the press. No one ran over to wash up, either on the blanket or the plate cylinder. We were told by Mr. Aller that the dampening unit could be run without any fountain etch. In other words, just plain water could be used, but it has been found that a slightly better result can be obtained if a small amount of wetting agent is used in the water.

Mr. Aller asked if we wanted to see a plate scum. We replied that of course we did. One of the dampening rolls was thrown off the plate (it happened to be the blue unit) and almost momentarily the blue color showed up all over the plate, both in printing and non-printing area. The dampening roll was again put in contact and almost at the same moment the plate was cleaned up. The only bad result of this operation was a few spoiled signatures which had to be discarded. Had that been an albumin or deep etched plate, it would have been necessary to stop the press and wash up before operation could be resumed.

As might be suspected, Aller thinks his plate is the only bi-metallic plate. While we don't fully agree, we think he has a plate that has proved itself. We understand it has been in operation for 12 to 13 years.

A few points were brought out. We were shown a plate that had been used over 500 times. We were told that the Aller bi-metallic plate could be made quicker than a deep-etch plate. Aller claimed his plate could be made cheaper than a deep etch plate. The reason he gave is that he can use and reuse his plate many hundred times, where a deep-etch plate life is only from 8 to 10 times.

We were told repeatedly: "Never use sulphur on the blanket where an Aller plate is to be used."

Aller estimates he has spent close to $300 thousand in developing the plate. This is a tremendous amount of money under Danish standards, when one considers a top press man receives $37 per week for 48 hours.

The Aller plate is distributed in Great Britain by R. Hoe & Crabtree, Ltd., and in the United States by the Fred'k H. Levey Co. With the Aller plate, as with any other bi or tri-metallic plates, there are some drawbacks. To etch the plate, or plate the plate, quite an installation is required. Of course, the size of the installation will be dependent upon the size of the plate which we want to make. To produce an Aller plate from start to finish, a series of tanks, etching and plating and generator or rectifier equipment is necessary. Mr. Aller has taken these conditions into consideration by having central service stations throughout the different countries where it is to be used.

(*Continued on Page 114*)

Patents

For The GRAPHIC ARTS

Covering patents issued March 3, 10, 17, 24 and 31.

Composing Room Equipment:

2,630,479. ELECTRIC MAGNETIC THERMOSTAT FOR TYPE MELTING MACHINES. Automatic thermostat is provided for maintaining a constant temperature in melting pots, wherein as the material in the melting pot reaches a predetermined degree, a circuit is broken through a solenoid that opens a switch in the circuit to the melting pot so that the heat is instantly turned off and all circuits are broken until the temperature of the material in the melting pot drops to a predetermined degree. Invented by Enrique Villarreal, Mexico City, Mex. Unassigned. Application Nov. 12, 1948. 4 Claims.

2,630,743. APPARATUS FOR PHOTOGRAPHING TYPE MATTER FROM COMPOSED LINES reproduces the type on matrices aligned in the mold bar of a Linotype machine and eliminates casting of molten metal, inking of metal and taking of a proof. Apparatus comprises electromagnetic facing for connecting a camera housing to the mold bar. A bellows is magnetically secured to facing. An electro-magnetically operated coupling is between bellows and mold bar. The housing contains a light source, a camera back having an exposure opening and containing a film feeding reel and film take-up reel and a movable vacuum chamber for feeding film between reels. Electrical control means interconnect the mold bar and vacuum chamber with an exposure shutter to operate latter in response to movement of space bar. Invented by John J. O'Kane, Dedham, Mass. Unassigned. Application Nov. 14, 1949. 14 Claims.

2,632,368. HAND COMPOSING DEVICE. This composing stick is particularly useful in connection with photocomposing machines. A channeled support has a slotted base, and an assembler slide is adapted to ride in the channel, a slot of the assembler registering with the slot of slotted base of channel support. The assembler slide has a wall against which a line of character-bearing typographical elements can be set. A guide on the assembler slide has a wall which is adjustable with respect to the wall of the assembler slide to define the length of line desired. The guide may be locked in the desired position on the assembler, permitting them to slide as a unit with respect to support. Invented by George J. H. Sausele, West Hempstead, N. Y. Assigned to Intertype Corp., Brooklyn, N. Y. Application Dec. 24, 1951. 7 Claims.

2,632,548. JUSTIFYING COMPOSITOR. This machine produces a tape record, having controlling representations, which is used in a separate machine or apparatus as the control means to produce automatically the justified line of text by photographic apparatus. The machine is key-operated and produces the tape record on which the characters and spaces of a line of text are represented by code signals, and successively measures off on a bar or track the widths of the characters and spaces represented by the signals, separately measures off on the same bar or track the width of the spaces, and divides the total distance represented by the spaces separately measured off and any additional spaces or lack of space in the measured line and automatically divides the total space distance to determine the width of the space between words to produce a justified line. Invented by Howard B. Ackerman, Rockville Centre, N. Y. Unassigned. Application Sept. 12, 1947. 31 Claims.

Feeding, Folding, Delivery:

2,631,033. SHEET INSERTING APPARATUS FOR PRINTING PRESSES is used when it is necessary to insert multi-colored sheets into black and white sections of newspapers. This is done by feeding a preprinted web at a velocity that is variably controlled to correspond, page for page, with the velocity of the main web or webs, and cutting page forming sheets from the preprinted web and combining them with the main web or webs while maintaining such sheets under suitable tension regardless of whether their rate of travel is, at the moment of cutting, being retarded or accelerated to keep page registry. The increase in surface speed of the transfer cylinder over the maximum speed at which the preprinted web is driven is produced by making this cylinder circumference greater than the page forming sheet lengths of preprinted web. Invented by Paul L. Tollison, North Plainfield, N. J. Assigned to Wood Newspaper Machinery Corp., Plainfield, N. J. Application July 6, 1951. 10 Claims.

2,631,036. GUIDE FINGER FOR KLUGE PRINTING PRESSES consists of a vertically guided foot carried by a housing mounted on the paper feeder bar and so designed as to permit the foot to come into close proximity with the side registering spring clip carried on the bed of the press. The foot comprises a rear heel and a forwardly and downwardly extending toe, the foot having a flat undersurface inclining upwardly and rearwardly from the forward end of the toe. As the heel is rounded, kick-back of the paper in every direction is prevented. Invented by Abe R. Boyd, Indianapolis, Ind. Unassigned. Application Apr. 20, 1950. 3 Claims.

2,631,038. SHEET DELIVERY MECHANISM enables a press operator to withdraw a sheet from the delivery pile for inspection of the printing without stopping or slowing up the press speed. In a mechanism using a pile adapted to be automatically lowered by conventional means to keep the top of the pile at a constant height and having end gates secured to a rock shaft against which the forward edge of each sheet impinges as it settles on the pile, a second rock shaft with fingers pivotally connected to cranks on the shaft is adapted to slide over the top of the pile and under the forward edge of the sheet next delivered. There is an operative connection between the rock shafts for turning the second shaft simultaneously with the first to swing gates away from the pile and slide the fingers into position above the pile or vice versa. Invented by James R. Wood, Cleveland, and Howard J. Seel, Beachwood, O. Assigned to Harris-Seybold Co., Cleveland, O. Application June 15, 1948. 6 Claims.

2,631,790. WEB TENSIONING AND DRIVING MECHANISM. This mechanism is designed to drive and tension a roll of newsprint for feeding a web to a rotary press. The press assembly includes a rotary press operated by a motor, which has a constantly energized field, a main circuit being connected to a source of power and the motor, and there is a shunt circuit for the motor. A rotatable reel supports a roll of newsprint, the reel being suitably controlled by an electric brake. The electrical circuit of brake is included in the shunt circuit and is energized by the momentum of the motor in said constantly energized field when the main circuit is broken. Invented by George H. Wheldon, San Francisco. Unassigned. Application Oct. 1, 1948. 6 Claims.

2,631,791. WEB TENSIONING AND DRIVING DEVICE. The application for this patent is a continuation in part of that originally filed on patent No. 2,631,790. The system is for maintaining proper tension on the web unreeled from a roll of newsprint, halting the roll quickly when the main press motor is stopped, positively driving the roll during slow press speeds, varying the angular speed of roll during slow speed and delivering a new web at the same linear speed as the old web. This is accomplished by a first impeller mechanically connected to the shaft which supports a roll of paper, a second impeller interconnected with press, a hydraulic circuit including first and second impellers and electrical mechanism which is responsive to operation of the press for opening and closing the hydraulic

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

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circuit. Invented by George H. Wheldon, San Francisco. Unassigned. Application July 2, 1949. 10 Claims.

2,631,849. FEEDING AND REGISTRATION OF SHEETS TO PRINTING MACHINES. An intermittent rotary feed gripper operating mechanism is adapted to feed and register relatively long sheets to a printing cylinder by means of acceleration and deceleration driving rollers mounted on the impression cylinder and normally rotating at uniform speed and cooperating with two cams on the feed gripper shaft. A quadrant gear is mounted on the feed gripper shaft, meshing intermittently with a driving gear on the impression cylinder, two separate follower cams being mounted on the impression cylinder and cooperating with two follower rollers mounted on the feed gripper shaft and arranged in such manner that in each complete rotation of the impression cylinder the feed gripper has a stationary period, an acceleration period, a uniform travel period and a deceleration period. Invented by Fred Whyte, Otley, England. Assigned 50 per cent to Waite & Saville Ltd., Otley, England. Application Dec. 26, 1946; in Great Britain Oct. 13, 1945. 5 Claims.

2,631,850. LOADER FOR SUPPORTING AND ELEVATING TABLES, on which a stack of sheets of paper is supported to be fed to a collating machine or printing press, is controlled or held in either its feeding or loading position by a lock. A spring underneath the table or loader functions, in coordination with the suction pick-up of sheets from the top of the stack, to urge table upward and keep top of stack in contact with suction feed. Invented by Walter H. Smith, deceased, late of Toronto, Ont., Canada, by Mary A. Johnston, executrix, London, Ont., Can. Assigned to Commercial Lithograph Co., Ltd., Toronto, Ont., Can. Original application Feb. 2, 1949; divided and this application Feb. 24, 1950. 7 Claims.

2,633,357. RACK FOR HOLDING A STACK OF PRINTED SHEETS. This rack is made up of a pair of long spaced parallel frames arranged to be supported on opposite sides of the sheets and parallel to the line of travel of the sheets. The framework is adapted for attaching to a printing press and horizontal pins are mounted for transverse reciprocation in each frame. The pins are formed so as to support the opposite edges of a board for receiving the sheets. Journal plates are attached to each frame, and a shaft journaled in the plates is attached to each frame. Slotted cranks are carried by shafts which shafts are operable in connection with the paper stack supports and the frame work so that a skid may be placed under a stack for removal of part of the paper stack without stopping the press or interrupting the paper feed. Invented by George F. Rooney, jr., Cincinnati, O. Unassigned. Application Jan. 24, 1950.

Detroit Craftsmen Honored—The Detroit Club of Printing House Craftsmen recently honored three of its old time members who have retired. Shown at the presentation ceremonies are, from left to right: Gordon J. Holmquist, President of the Intl. Craftsmen's Assoc.; Richard Cooper, a member for 32 years; Arthur Fox, another 32 year member; Wendell Salmon, who represented his father, Charles Salmon, a 29 year member; and Joe Piper, President of the Detroit Club.

Miscellaneous:

2,630,657. REFINISHING OF OFFSET BLANKETS is accomplished by use of strip material on a roller. The roller is provided with grooves in the ends thereof and an abrading strip is wound spirally around the roller. Resilient means are carried by one end of the strip and the other end is perforated and seated in one of the grooves. An attaching block is provided with screw receiving holes for disposition over the perforated end of the strip and is seated in the groove. Fastening screws extend through the block and perforations in the strip and into tapped holes in the roller. A second block is fitted in the groove in the opposite end of the roller and clampingly engages the resilient means on the opposite end of the abrading strip. Invented by Earle L. Harley, Brooklyn, N. Y. Unassigned. Application Dec. 29, 1950. 2 Claims.

Platemaking:

2,630,384. METHOD OF ESTABLISHING BLEED LINES AROUND DESIGNS ON PRINTING SURFACES photochemically comprises establishing an outline around the contour of a given design. A diffusion sheet is inserted between the opaque reproduction and a film carrying a light sensitive emulsion. The film is exposed by directing light against the reproduction. The diffused light produces a partially exposed border around the still sensitive areas of the film. The film is developed, emulsion is removed from exposed areas, but left intact on still sensitive areas and partially exposed border, which are exposed through a screen to create, upon developing and fixing, a screened positive of the design to be printed. Invented by Owen G. Doherty, New York, N. Y. Assigned, by mesne assignments, to Mergenthaler Linotype Co., Brooklyn, N. Y. Application June 29, 1950. 6 Claims.

2,630,732. APPARATUS FOR CUTTING CIRCUMFERENTIAL GROOVES, such as gravure printing cylinders, comprises a circular cutting tool having arcuate, uniform cutting facets equally spaced around its periphery. A support for the tool includes a longitudinal guide member upon which the support is slidably mounted for movement parallel to axis of the cylinder. Cutting member is freely rotatable on support with its cutting edge in a plane perpendicular to a vertical plane through axis of cylinder and slightly below a horizontal plane through axis of cylinder. Invented by Thomas E. Piazze, Mt. Vernon, O. Assigned to Shellmar Products Corp., Chicago. Application Jan. 19, 1950. 4 Claims.

2,631,669. MATRIX TRIMMER. A matrix trimmer includes a curved matrix-holding plate with straight parallel side edges. Matrix is held securely in position on the plate and edges are simultaneously trimmed along the edge of the plate. Light projectors are adjustably mounted on the trimmer above the side edges of the plate for directing the setting of the matrix in exact desired trimming position on the plate. A guide bar is adapted to be temporarily placed on one of the edges of the plate for facilitating the adjusting

of the light projectors above the opposite side of the plate in preparation for the setting of the matrix in position. Invented by Craig C. Baker, Whittier, Calif. Unassigned. Application Feb. 3, 1951. 14 Claims.

2,632,722. MOLDABLE TABLET. The tablet is for use in preparation of electrotypes and comprises two layers of thermoplastic synthetic resinous material moldable at elevated temperature and pressure, and a core layer of sheet metal deformable so as roughly to follow the contour of molded face of tablet after molding to image of electrotype. Metals layer is 0.001 to 0.008 in. in thickness and each resinous layer is 0.01 to 0.028 in. in thickness. Layers are united into a unitary structure whereby resinous layers are secured against lateral displacement with respect to metal layer when exposed to temperature as high as 150 deg. F. at atmospheric pressure. Invented by Herbert Libberton, Chicago. Assigned to Tenak Products Co., Chicago. Application Feb. 27, 1948. 7 Claims.

Printing Inks:

2,631,986. A STEAM-SETTING PRINTING INK comprises pigment and a vehicle consisting of the reaction product of phthalic anhydride and a saturated monocarboxylic aliphatic acid having 8 to 18 carbon atoms, a compound that is pentaerthritol or dipentaerythritol, in a solvent that is a dihydric saturated aliphatic alcohol selected from dipropylene glycol and alkane diols containing 4 to 6 carbon atoms. Invented by Alfred F. Schmutzler, Teaneck, N. J. Assigned to American Cyanamid Co., New York, N. Y. Application July 2, 1949. 9 Claims.

Printing Presses and Equipment:

2,630,065. ENCLOSED FOUNTAIN GRAVURE PRESS, for accommodating changes in the gravure cylinder as the dimensions of the printed sheet are changed, includes a gravure cylinder, an ink fountain the lower portion of which conforms generally to a hemi-cylinder, a nozzle, the position of which is adjustable over a large range, a doctor blade, and sealing aprons extending downwardly from the nozzle and from doctor blade into engagement with the inside of the fountain. These sealing aprons engage the ink pan regardless of changes in holder or nozzle holder positions concomitant with changes in the cylinder diameter and protect the parts against freezing because of splashed ink. The doctor blade is so mounted that its wiping pressure is determined not only by the resilience of the doctor blade itself but also by the resilient mounting and because position of blade with relation to cylinder may be adjusted by control knobs outside the press. Invented by Joseph R. Caulfield, West Norwood, N. J. Assigned to Champlain Co., Inc., Bloomfield, N. J. Original application Oct. 23, 1946; divided and this application Apr. 5, 1948; in Great Britain Oct. 6, 1947. 11 Claims.

2,630,631. OPTICAL COMPARISON GAUGE. In operation, a web of paper is run through a multi-colored press and examined to discover if any non-registry exists. If non-registry appears, gauge is positioned against the web of paper above the areas of non-registry and gauge is rotated so as to match one of the gauge lines between the non-registering printed lines. When matched, the respective parallel rectilinear side margins of the proper gauge mark are aligned with the respective non-registering lines and the appropriate gauge line completely fills the space between the non-registering lines on the web. A numeral appearing opposite the appropriate gauge line indicates the number of cards necessary to displace color plates into position of accurate registration. Invented by Joseph E. McMullen, Milwaukee, Wis. Assigned to The Journal Co., Milwaukee, Wis. Application Aug. 4, 1949. 2 Claims.

2,630,744. EVAPORATOR FOR GAS DEVELOPING MACHINES. The invention relates to a combined photographic printing and developing machine and particularly to a developer chamber having an exposure area by which a printed photosensitive sheet can be developed. An aqua ammonia evaporator is in the chamber and comprises an inclined trough. An evaporating pipe, perforated at its upper side, extends along the trough to discharge into its upper end. The intermediate portion of the pipe is lower than the ends to maintain a pool of ammonia therein. A heating element is spaced from the trough and pipe. Spacing varies from one end of trough to the other to control independently evaporation of ammonia and water vapor both. Invented by Fredrick B. Wilde, Rochester, N. Y. Assigned to Paragon Revolute Corp., Rochester, N. Y. Application Jan. 16, 1950. 7 Claims.

2,630,756. PRINTING PLATE FOR USE ON THE CYLINDERS OF ROTARY PRINTING MACHINES AND IN CLAMPING MECHANISM THEREFOR. The stereotype printing cylinder is provided with plate clamps to apply circumferential tension to leading and trailing edges, and an intermediate clamp to provide an anchorage to hold plate between its ends from lifting radially under centrifugal action and also provide an abutment from which the clamps for the ends of the plate circumferentially tension the plate each way around the cylinder. The plate clamps are in the form of hooks which engage undercut surfaces on the printing plate. Invented by John O. Crabtree and Charles W. Marshall, London, England. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application Jan. 10, 1950. In Great Britain, Jan. 10, 1949. 11 Claims.

2,631,006. PRESSROOM DOLLY affords safe and efficient transfer of printing forms. A narrow base mounted on four wheels or casters supports a rectangular frame by means of a Y shaped standard, such Y being mounted on center of base and being reinforced by a standard mounted at one end of base. The frame is pivoted to the Y standard so that it may be swung to a position most convenient for loading and unloading and as printing forms may be secured to the frame, loaded frame may be pivoted into almost a perpendicular position with relation to base to facilitate its passage in a crowded pressroom. Invented by John V. Sick, Waukegan, Ill. Assigned to The Bunting Publications, Inc., North Chicago, Ill. Application Nov. 1, 1950. 5 Claims.

2,631,068. LUBRICATION OF TRACK-BORNE MECHANISM. Printing presses having oscillatory beds are lubricated by force feeding, the lubricant being delivered to the press tracks and distributed by the movement of the bed on the track. Two lubricant reservoirs are spaced apart in the direction of the length of the track and ducts of capillary size extend along the truck and communicate with both reservoirs. Ducts of greater than capillary size extend along the track and communicate with both reservoirs and a groove extending across the track intersects the bearing surface of track and communicates at one end with the first duct and at the other end with second duct. Invented by August A. Saul, Ross Township, Allegheny County, Pa. Assigned to Miller Printing Machinery Co., Pittsburgh, Pa. Application June 10, 1947. 12 Claims.

2,631,358. INK CARRIER AND METHOD OF MAKING. An ink carrier comprises a rigid metal shaft and an adhesive coating on the shaft. A soft body formed of about 65 per cent of polyvinyl chloride resin adheres to the adhesive. The soft body is heated to 250 to 350 deg. F. and molded to fit the adhesive. Invented by Edward D. Hill, Cleveland, O. Unassigned. Application Mar. 25, 1948. 10 Claims.

2,631,384. SUPPORT ROLLER FOR PRINTED WEBS. In combination with a dryer through which a web printed on one or both sides passes, at least one support for the printed web comprises a shaft and a plurality of metal sleeves mounted on the shaft. Each metal sleeve is adjustable longitudinally of the shaft and has a recess formed in its circumferential surface. A covering placed in the recess has spaced portions raised beyond the periphery of the covering and also above the external peripheral surface of the sleeve. Invented by Bernard Offen, Chicago. Unassigned. Application Jan. 11, 1951. 4 Claims.

2,631,532. A ROTARY INTAGLIO INK FOUNTAIN comprises a generally cylindrical well for holding ink for inking a cylinder. A reciprocating doctor forms an enclosure around the major part of the cylinder and around its shaft. Baffles at the ends of the well have cylindrical surfaces adapted to come close to the lower part of the cylinder and extend upwardly above the operating ink level for confining ink within the well. Chambers at the ends of the fountain beyond the baffles receive leakage and the ink may be removed from the chambers. Invented by Charles A. Harless, Riverside, Conn. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application June 6, 1950. 4 Claims.

2,631,537. SHEET GUIDE FOR PLATEN PRESSES. Sheet guides comprise a pair of forwardly extending arms which are spaced to receive a spring tongue therebetween. Arms are formed integrally with a bar and have forwardly extending portions that angle upwardly and terminate in downwardly extending vertical portions which form abutments for the edge of the sheet. Bottoms of the vertical portions are cut away to form reduced feet which bear directly on a tympan. Spring tongue is adjustably positioned at its rear end by a screw threaded into the bar laterally of the spring so it may be adjusted longitudinally between the arms. Tongue comprises an upwardly bowed portion and a

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orward downwardly bowed portion and terminates with a tip slightly turned up to guide the edge of the paper. Invented by Cecil P. Kuever, Washington, D. C. Unassigned. Application Oct. 6, 1947. 1 Claim.

2,631,845. METHOD OF PRINTING, FOLDING, AND CUTTING WEBS TO MAKE BOOKS. In making books each comprising a plurality of signatures and each signature having differently printed pages, the various pages on a web are printed in a plurality of widthwise sections, each four pages wide and each consisting of a repeated pattern comprising a plurality of double pages aligned longitudinally of the web. The web is then slit into ribbons corresponding to the printed sections and they are associated in face to face relation, twice folded longitudinally, and are transversely cut and folded into double signatures. The signatures having like pages are delivered to separate stations, and after assembling sets of signatures from each station signatures of each set are secured together and then cut apart at the middle to form two books. Invented by Adolph M. Zuckerman, New York, N. Y. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application July 30, 1946. 2 Claims.

2,632,855. PHOTOELECTRIC SPEED CONTROL. Control apparatus for web speed regulation comprises a single source of a directed beam of light disposed on one side of the web when in operation and directed toward the web to illuminate a scanning area thereon. A photoelectric device is disposed on the web side of the light source for response to light from the source reflected from the scanning area. Another photoelectric device is on the side opposite the light source. Two amplifiers connect with the photoelectric devices and have output circuits and relay means with a control circuit. Two output circuits are connected to the control circuit and have the voltage polarity needed whereby a change in illumination of a given sense on either photoelectric device will produce a voltage change of a given sense in the control circuit. Invented by Waldemar I. Benda, Weston, Mass. Assigned to Westinghouse Electric Corp., East Pittsburgh, Pa. Application Oct. 7, 1947. 4 Claims.

2,632,957. PRINTING PLATE REGISTERING DEVICE. Attachment includes a pair of plates fixedly attached to the opposite ends of each printing cylinder. Each plate has a threaded aperture and a removably mounted registration gauge assembly. Gauge assembly includes a transverse bar with bolts that fit the plates of the cylinder. Bar has a T-shaped slot with supporting members mounted therein. Support members have bifurcated ends and arcuate arms are pivotally mounted between the furcations of them. Arcuate arms have pointers adapted to be aligned with the registration recesses in the margins of the printing plates. Gauge assembly may be moved from one cylinder to another for aligning the plates of a set upon the several printing cylinders. Invented by Arthur O. Gardner, Dayton, O. Assigned 30 per cent to Bishop-Stansell Co., West Carrollton, O. Application Feb. 5, 1948. 3 Claims.

2,633,076. PLATE ALIGNING ATTACHMENT consists of a plurality of buttons fixedly mounted in a predetermined position on each of the printing cylinders of a multicolor press. Buttons are used to align a plate aligning bar that is locked or held in position when properly aligned by electromagnets. Aligning bar supports a plurality of arms adjustably carrying plate aligning indicia for use in properly positioning the plates on the several printing cylinders of a multicolor press, so that when the plates have been locked, the impressions of the several plates are superimposed upon each other in proper registry when the printing press is operating at full speed. Invented by Arthur E. Rineer, Centerville, O. Assigned one-half to Rudolph Platzer, Dayton, O. Application May 5, 1949. 12 Claims.

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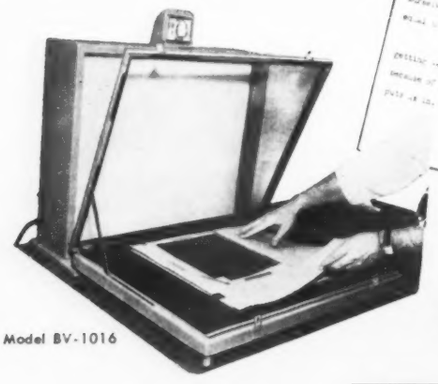

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Sun's Retirement Plan

Sun Chemical Corp. has announced a retirement plan for its employees who have completed three years of continuous service with the organization. The plan is retroactive to January 1, 1952. Recently retired under the plan were Dr. Hugo Stockmayer and Arthur Pingree of Fuchs & Lang Mfg. Co., a division of Sun.

EXECUTIVE Cs

Aaron A. Hobart has been appointed to the sales staff of C. B. Cottrell & Sons Co. according to an anouncement by S. C. Saunders, Vice Pres. and Director of Sales. Hobart will work under the direction of Vice Pres. Albert Halstead of the New York office.

Niles Retires After Productive Career—Irving F. Niles contributed much to the design of all kinds of printing presses during his 56 year career in the Graphic Arts industry. In May he retired as engineer in charge of letterpress development for Harris-Seybold Co.

Niles is one of those men aptly described when it is said "There is more beneath the surface . . . ". He is soft-spoken and quietly studious in manner, and his warm smile and vigorous enjoyment of life and his work make it difficult to believe he is approaching the age of 75.

Widely known throughout the industry for many substantial improvements in press design, some of Irving Niles' most successful machines were created at an age when the majority of men have long since called their work finished. But in an interview with *Printing Equipment Engineer*, he expressed his concept of what he considered his most important accomplishment in recent years. Niles does not find his greatest pride in the

sleek new presses of his final designing days, but in the spark he has been able to impart to young engineers. "A man is not successful, no matter what he accomplishes himself unless he can pass on his accumulated knowledge to younger men," says Niles. Pursuing this line of thought, he told how he set deliberate goals for himself to develop his teaching ability

Irving F. Niles (right) recently retired chief of Harris-Seybold letterpress engineering is shown with Robert K. Norton who will head the staff of letterpress designers which Niles has concentrated on developing at Harris-Seybold since the end of World War II.

and establish practical programs for developing his followers. "I looked for young men with desire and ability to learn," he says, "and told them that their main job was to acquire knowledge — that they must think of themselves as human sponges, soaking in as much experience as I could wring out of myself." And he added with the modesty so often found in veteran engineers, "After all, a fella's bound to pick up a few scraps of useful information after he's been in the printing business for 56 years."

Another of Niles' concepts which *Printing Equipment Engineer* found stimulating concerned a certain desirable quality in the equipment designing engineer. "A good designer," he said, "should be able to visualize the entire new machine, even when he's just working at some minor component on the drafting board. You have to be able to think of the press as a whole in order to create its individual features properly. And of course, knowing the function of the machine — what it will have to produce—is of primary importance."

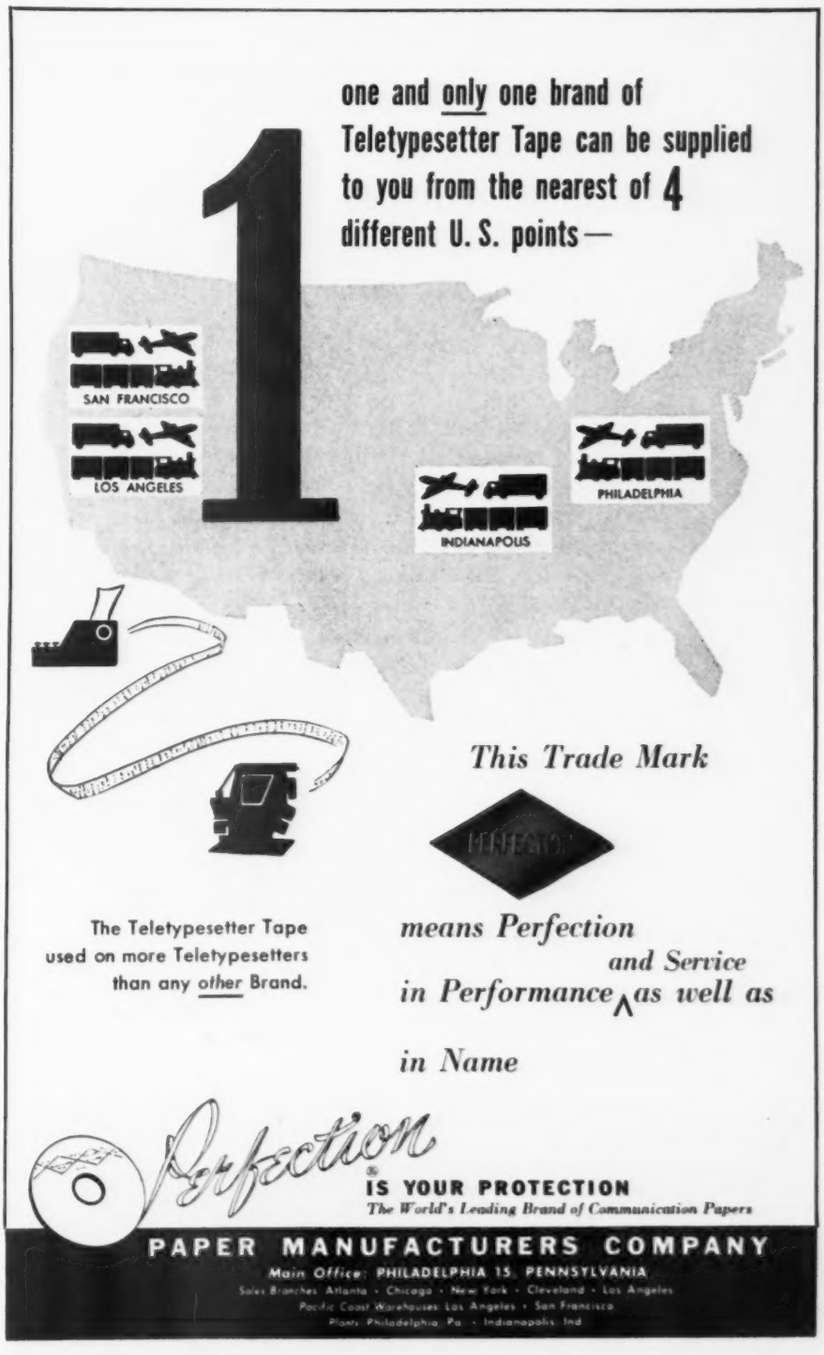
Niles has been watching one of the trends in the Graphic Arts industry. It is that more and more technical men are coming into printing and publishing plants, men who have been trained as mechanical engineers, chemists and even physicists. These men have assumed responsible positions. And the result is that printing plants are increasingly being operated as actual manufacturing plants. Many industry leaders have pointed out the printing industry as one in which great strides must be taken. A few years ago here were perhaps 250 such men in printing plants; today it is estimated there are over 700. Niles has one bit of sound advice for these men, who he feels can do much for the industry, "Don't be afraid of getting ink on your hands as you learn the business. Everyone will respect you for it, and you'll probably learn more and faster than by studying it from the sidelines."

Lending impetus to this trend toward truer industrialization of the printing business is the formation and now successful progress being made by the Research and Engineering Council of the Graphic Arts Industry, Inc. Niles envisions the Graphic Arts industry taking its place with other manufacturing industries, with respect to research and engineering methods. His final comment about this was "It seems to me all equipment and supplies manufacturers will work closely with the Council."

The veteran press designer particularly complimented the Council's recent efforts to reduce makeready in pressrooms. He feels that equipment manufacturers are anxious to add the benefit of the operating experience of the Council's printing executives to the manufacturers' established programs for minimizing makeready time by all processes.

There is a strong trend within the industry toward industrialization of both art and production, Niles believes. Ultimately, he commented, this will have a very fine effect upon the industry. Practically all art will be designed to suit the particular process by which it is to be reproduced. In turn, engineering methods and scientific management applied to printing production will result in better printing of all types.

One statement in particular illustrates the insight which Irving Niles acquired during his years in the Graphic Arts. When asked what he thought to be the most important development in printing within the last 50 years, Niles said: "The development of offset-lithography." This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might seem to be an unexpected statement, coming from the man known most widely for his work in letterpress development. But Niles claims the fact is so self-obvious that there is no longer room for argument. And he possesses the same philosophy adopted by most printing executives and equipment manufacturers —that there is a place in the industry for all three processes — that letterpress, lithography and gravure are complementary and not competitive.

Acceptance of this point of view in the past decade has been accelerated by the large increase in overall printing volume. Although many jobs have been taken from their traditional process, struggles to retain specific jobs by flying in the face of progress have not been as vigorous as before. The overall increase in volume has brought in new work to take the place of jobs that have gone elsewhere. Few printing plants have felt they are the victims of technological unemployment.

As might be expected, Niles has specific theories concerning further expansion of rotary letterpress equipment. He feels that much growth will be dependent upon development of a lightweight, long-life plate which can be rapidly and accurately produced.

During his long career as a press designer, Niles was granted 13 patents, and has one pending at the present time. His earliest patent was granted in 1911. He still holds great affection for that patent covering a press tripping mechanism. That mechanism is still used on Harris presses.

Irving Niles always designed his equipment with one dominant principle in mind. He believed that a press should be designed as compactly as possible, should be as simple in design as possible, and must be flexible in operation. His latest major achievement at Harris-Seybold was the development of the Harris TRG rotary sheet fed letterpress. In the past several years, Niles saw a number of these machines installed in publishing plants, folding carton establishments and commercial color shops. He takes particular pride in the double delivery on these presses and refers to the double pile system as "my baby". Presses so equipped provide longer drying time for sheets surcharged with heavy layers of ink. Sheets can be fed alternately to either of two piles, or can be directed to one pile at a time while the press is unloaded while running.

As a young man, Niles attended Alfred (N. Y.) University. His first job in the printing equipment field was in 1897 as an apprentice machinist with the Potter Press Co. in Plainfield, N. J. He advanced to become a press designer with Potter, continuing his education at night college. At various times during his career he has been associated with R. Hoe & Co., The Todd Company (printers), American Colortype Co. and others. He was with Harris-Seybold Co. for the greatest number of years, during three separate engagements with the firm.

When asked why he accepted a position as supervisor of plants and equipment installation with American Colortype in 1919, he replied, "I wanted to see what makes the inside of a printing plant tick. This experience was invaluable to me as a press designer."

Niles is a past member of the Society of Mechanical Engineers, and has been a member of the Craftsmen and Litho Clubs in several cities. His career has been remarkable for his unquenchable enthusiasm for printing and for people in general—traits which were of great significance as he built a staff of young engineers to follow him at Harris-Seybold.

Mr. and Mrs. Niles have left Cleveland for their new permanent home in Miami, Florida. He is quite proud of the fact that he traded his completely furnished home in Brecksville, O., for a similarly furnished place in Miami. Although his Florida residence has three units of income-producing dwellings accompanying it, Niles proudly reports, "It was an even-steven trade." Mr. and Mrs. Niles have two grown daughters, both of whom live in California. Although he plans to keep his time occupied with landscaping and garden work in Florida, printing ink still has a claim on Irving Niles. He admits that it's possible he may still find occasion to return to the North at times to bring his experience to bear on printing plant problems.

Louis J. Kerpec, since 1941 West Coast manager of the Sleight Metallic Ink Co., Inc., has been elected Vice Pres. in Charge of Pacific Coast operations, according to an announcement issued by Louis W. Hraback, President of the company. At the time of his transfer to Los Angeles, Kerpec had been a key member of Sleight's technical and sales departments in Chicago.

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Cornelius W. (Neil) Burger (center) is shown here being welcomed into the sales department of Goss Printing Press Co. by Edward G. Morrison (left), Asst. Sales Mgr., and C. S. Reilly (right), Vice Pres. of Sales. Burger, formerly with the Cline Electric Mfg. Co. in San Francisco, has been assigned to the New York territory of the Goss company.

An interesting personality from Copenhagen, Denmark, visited the United States from November until May this year. He is Sven Ahrenkilde of the Research Dept., The Graphic College of Denmark. Principally, Mr. Ahrenkilde

SVEN AHRENKILDE

is interested in platemaking processes. Among the places he visited were Battelle Institute, Columbus, O.; Time-Life Laboratories, Springdale, Conn.; Harris-Seybold Co., Cleveland; Rochester (N. Y.) Institute of Technology; School of Printing Management, Carnegie Institute of Technology, Pittsburgh, Pa.; Government Printing Office, Washington, D. C., and many printing and publishing plants. During his call to the offices of *Printing Equipment Engineer* he explained that the Graphic College of Denmark was formed in 1941 by the Danish employers' associations for the purpose of supplying technical, economic and artistic-humanistic data; qualifying men for executive posts in the Graphic Arts and carrying out graphic-technical research work. The Research Laboratory commenced operation in 1944 with three main objectives: (1) Technical research, (2) Advisory service, and (3) Instruction. Ahrenkilde holds several degrees, but says he is interested preferentially in chemical engineering for the Graphic Arts.

Responsibilities for advertising and sales promotion activities in connection with Printing Developments, Inc., a subsidiary of Time, Inc., have been assigned to Clarence G. Luther, it has been announced by T. A. Dadisman, Vice Pres.

Jack McKenna has been named Eastern Sales Representative and New York Manager of Kable Printing Co., Mount Morris, Ill., according to an announcement by R. W. Cox, Sales Mgr. of Kable. McKenna has been production manager of Popular Publications for the past seven years.

D. Van Scoy, formerly associated with Intertype Corporation, has joined the sales division of Jones Graphic Products Co., according to an announcement by W. Leon Ullrich, Sales Mgr. of the Albuquerque, N. M., firm. Van Scoy's territory will include Arizona, New Mexico, Southern Colorado and Western Texas.

Carroll R. Weber has been appointed Technical Sales and Service Representative of the Sun Supply Co., Div. of Sun Chemical Corp., by Jack Mather, General Mgr. In his new position, Weber will be available for assistance to offset printers on technical problems arising in camera or platemaking departments, or in the pressroom.

NOW!

TWO ROUSE TIME-SAVING

PLATE SAWS

With Exclusive Automatic Feed

For Photoengravers, Stereotypers, Printers

No more manual squaring up, guesswork alignment, tacking, scoring, beveling, trimming, removing burrs, using wedges. That's how a Rouse Plate Saw soon pays for itself.

Just make 4 quick, easy, automatic saw cuts and your plate is ready for the printer. The *exclusive* automatic feed guarantees each cut to be perfectly square, smooth-edged and uniform on any copper, zinc, magnesium or plastic plate, whether wood or plastic mounted or shellcast.

Cuts are made to Picas, Points, Quarter Points or Inches as required. Outside Mortising is effectively done to pica and point measurement.

NEW 24" MODEL—automatically cuts up to 24" of type-high work in only 27 seconds.

15" MODEL—identical to 24" Model except it automatically cuts up to 15" of type-high work in only 17 seconds.

BOTH MODELS occupy only 26" x 26" floor space.

NEW FEATURES (*on Both Models*)

1. Now you can make *cuts as small as 1 Pica square* for signatures, key letter or number changes, etc.

2. *Narrow Cut* measures about 2 points (.028"), permitting cutting between type lines.

3. Saw blades are changed in just 1 minute due to new lever-operated tension release. Blades stay sharp during 30-40 hours continuous operation. New blades are inexpensive.

4. New simplified gauge adjusting device makes it easier to maintain perfect squareness in cutting.

DESIGNED BY MEN WITH 25 YEARS KNOW-HOW IN BUILDING BAND SAWS FOR PRINTERS

Write for complete details TODAY!

H. B. ROUSE & COMPANY
2214 North Wayne Avenue, Chicago 14, Illinois

ROUSE PRODUCTS...The Standard of the World Since 1899

Mrs. Beatrice Warde, typographic authority of the Monotype Corp., Ltd., of England, has completed a tour of a number of American and Canadian cities where she spoke to various Graphic Arts groups on *The Future of Typography and How You Can Affect It.* Mrs. Warde's visit to this country was under the auspices of the Lanston Monotype Machine Co. and the Monotype Co. of Canada, Ltd.

David W. Frackelton, President of The Chandler & Price Co., Cleveland, has announced the election by the company's directors of the following officers: John W. Kirkpatrick, Vice Pres. and Mgr. of Sales; Fred D. McLaughlin, Vice Pres. and Works Mgr.; Walter P. Moak, Secretary. All of these officers have been associated with Chandler & Price for many years.

John P. Tobin has joined the sales staff of the J. Thomas McHugh Co., distributors of Goodyear printers supplies.

Anthony J. Math, 53, passed away on Wednesday, May 13. He was President of Sinclair & Valentine Co. He was prominent in many activities connected with the Graphic Arts industry. Requiem mass was held at St. Patrick's Cathedral, New York, on Saturday, May 16. He was a Past President of the National Assoc. of Printing Ink Makers. It is in the record that Math was the one who was the spark plug for the printing ink research program instituted a number of years ago at Lehigh University. He was the first chairman of the Board of Trustees of the National Printing Ink Research Institute.

ANTHONY J. MATH

Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Assoc. — 1953 Conv., Hotel Statler, Boston, Oct. 12,13, 14. Pres. D. H. Murnik, Oakland National Engraving & Gravure Co., Oakland, Calif., Frank J. Schreiber, Exec. Secy., 166 W. Van Buren St., Chicago 4.

ANPA Mechanical Conf.—1953 Conf., Milwaukee, Wis., June 15,16,17,18. Conference sessions and exhibits to be held in Civic Auditorium; Conference headquarters, Hotel Schroeder. Chairman of the Committee, William E. Gibbons, Production Mgr., Portland (Ore.) *Journal;* Mgr., ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute — Greenbrier Hotel, White Sulphur Springs, West Va., Sept. 21-23. President, Sidney Satenstein, American Book-Stratford Press, 75 Varick St., New York 13, N. Y.; J. Raymond Tiffany, General Counsel, 25 W. 43rd St., New York 18, N. Y.

Fifth District Craftsmen's Conf. — 1953 Conf., Olds Hotel, Lansing, Mich., June 26,27. Secy.-Treas., Robert Wolf, Richardson-Taylor-Globe Co., 4501 Mitchell Ave., Cincinnati 32, O.

Graphic Arts Trade Assoc. Executives — Pres., Robert Hostetter, Printing Industry of Pittsburgh, 3124 Jenkins Arcade Bldg., Pitsburgh 22, Pa.

Gravure Technical Assoc.—Pres. John E. Hazel, Rm. 4800, 30 Rockefeller Plaza, New York 20, N. Y.; Secy.-Treas., Frank Sportelli, International Color Gravure, 39 W. 60th St., New York 23, N. Y.

Great Lakes Newspaper Mechanical Conf. —1954 Conf., Claypool Hotel, Indianapolis, Ind., Jan. 10,11,12. Pres., Horace Parker, Press and Stereotype Fm., Richmond (Ind.) *Palladium-Item;* Secy.-Treas., Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press;* Chairman Mfrs. and Suppliers Committee, Joseph W. Kaercher, Linotype Representative, 5311 Broadway, Indianapolis, Ind.

Hoosier State Press Mechanical Conf. — Union Bldg., Purdue Univ., Lafayette, Ind., September 19 and 20. Dale C. Thompson, Exec. Chairman, Indianapolis Newspapers, Inc., Indianapolis, Ind.

Illinois Newspaper Mechanical Conf. — 1953 Conf., Hotel Jefferson, Peoria, Ill., Sept. 26,27. Pres., Thomas Lowry, Peoria (Ill.) Newspapers, Inc.; Secy.-Treas., Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.; Chairman Mfrs. and Suppliers Committee, Joseph D. Goggin, Newspaper Publishers Supply Co., 1639 N. Lorel Ave., Chicago 39.

Intl. Assoc. Electrotypers & Stereotypers—1953 Conv., Statler Hotel, Detroit, Sept., 23,24,25. Pres., Walter C. Dohm, Norman-Dohm O'Flaherty Co., Inc., 228 E. 45th St., New York, N. Y.; A. P. Schloegel, Exec. Secy., 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen — 1953 Conv., Adolphus Hotel, Dallas, Tex., Sept. 13,14,15,16. Convention for 1954 to be held in Philadelphia, dates to be announced. Pres., Gordon J. Holmquist, Cole-Holmquist Press, 1228 S. Flower St., Los Angeles; Exec. Secy., Pearl E. Oldt, Rm. 806, Transportation Bldg., 307 E. Fourth St., Cincinnati 2, O.; Convention Chairman, Homer L. Green, Wilson Engraving Co., 2117 Commerce St., Dallas 1, Tex.

Intl. Graphic Arts Education Assoc.—1953

Unique Press Support—The Color Offset Co., Brooklyn, N. Y., recently installed a Miehle four color offset press. The press has been equipped with Baldwin Ink Fountain Agitators and Baldwin Water Levels. The press is also equipped with Baldwin Press Washers to clean the ink rollers for quick color change or washups at day's end. Shown in the illustration from left to right are President Frank Macero; Secretary Carl Macero, and Vice Pres. Henry Sala. Before the press was installed it was found the floor loading was not adequate for the weight of the press. Messrs. Frank and Carl Macero and Sala developed a method for supporting the press by means of I beams which rest on the building columns. The press is elevated 2 in. above the floor and the entire weight of the press is on the heavy steel sections.

Conf., Statler Hotel, New York, N. Y., June 14,15,16,17. Pres., Patrick F. Boughal, New York (N. Y.) School of Printing; Acting Educational Dir., Fred J. Hartman, 719 Fifteenth St., N. W., Washington 5, D. C.

Intl. Typographic Composition Assoc. — 1953 Convention, Mayflower Hotel, Washington, D. C., Sept. 2,3,4,5. Pres., John R. Connell, Connell Typesetting Co., 302 E. Eighth St., Kansas City 6, Mo.; Frank M. Sherman, Exec. Dir., 1015 Chestnut St., Philadelphia 7.

Iowa Daily Newspaper Mechanical Conf. —Secy.-Treas., Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald*.

Kansas-Missouri Newspaper Mechanical Conf. — 1953 Joint Conf., Town House, Kansas City, Kan., Sept. 12,13. Pres., William Lawrence, Wichita (Kan.) *Eagle;* Secy.-Treas., Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kan.; Secy., William Bray, Missouri Press Assoc., Walter William Hall, Columbia, Mo.

Lithographers National Assoc.—1953 Convention, Edgewater Beach Hotel, Chicago, June 16,17,18. Pres., William H. Walters, United States Printing and Lithograph Co., Mineola, L. I., N. Y.; Exec. Dir., W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conf. — Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conf. Dir., Theodore A. Serrill, PNPA General Mgr., 209 Telegraph Bldg., Harrisburgh, Pa.

National Assoc. of Litho Clubs — 1954 Conv., Hotel Biltmore, New York, N. Y., May 7,8. Pres., Andrew Balika, Supt., Copifyer Lithograph Corp., 1771 E. 24th St., Cleveland; Exec. Secy., Sol D'Allesandro, Supt., Horn & Norris, Inc., 2729 Prospect Ave., Cleveland.

National Assoc. of Photo-Lithographers–1953 Convention, Sheraton Hotel, Chicago, Oct. 28,29,30,31. Pres., A. J. Fay, 75 Varrick St., New York, N. Y.; Exec. Vice Pres., Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Printing Equipment Assoc., Inc. —1953 Meeting, Shoreham Hotel, Washington, D. C. Directors meeting, 8 p.m., Oct. 6; members meeting, Oct. 7, 10:30 a.m. Pres., Fred S. Tipson, T. W. & C. B. Sheridan Co., 135 Lafayette St., New York 13, N. Y.; Secy., James E. Bennet, 140 Nassau St., New York 38, N. Y.

New England Mechanical Conf. — 1953 Conf., Hotel Statler, Boston, Oct. 17,18. Pres., Charles W. Noonan, Pressroom Supt., Providence (R. I.) *Journal-Bulletin;* Secy.-Treas., Walter C. Crighton, Comp. Room Supt. New London (Conn.) *Day*.

Northwest Mechanical Conf.—1954 Conf., Radisson Hotel, Minneapolis, Minn., Feb. 27,28, and March 1. Pres., John R. Copeland, Production Mgr., Minneapolis (Minn.) *Star* and *Tribune;* Secy.-Treas., Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conf. — 1953 Conf., Statler Hotel, Los Angeles, Sept. 25,26,27. Pres., Al Tennyson, Comp. Room Supt., Los Angeles *Times* and *Mirror;* Secy. for North, Edw. N. Conley, Color Press Fm., San Francisco *Chronicle;* Secy. for the South, Fred J. Moyer, Los Angles *Daily News*.

Printing Industry of America—1953 Conv. Shoreham Hotel, Washington, D. C., Oct. 5,6,7,8. Pres., John M. Wolff, jr., Western Printing & Lithographing Co., Southwestern Div., 1310 S. Spring St., St. Louis, Mo.; James R. Brackett, General Mgr., 719 Fifteenth St., N. W., Washington, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc. — Makeready Meeting No. 2, Hotel Sheraton-Gibson, Cincinnati, O., Oct. 1, 2, 1953; Second Technical Conf. on Color Photography and Color Separation, Hotel Statler, Los Angeles, Nov. 30 and Dec. 1, 1953; 1954 Membership Meeting, May 11 and 12; 1955 meeting, May 12 and 13, city and hotel to be announced later. Pres., Edward J. Triebe, Kingsport Press, Kingsport, Tenn.; Managing Director, Bernard J. Taymans, 719 Fifteenth St., N. W., Washington 5, D. C.

Screen Process Printing Assoc.—1953 Conv., Statler Hotel, New York, N. Y., Nov. 1,2, 3,4. Pres., Joseph Grossman, Masta Displays, Inc., 230 W. 17th St., New York 11, N. Y.; Secy., Dan Novak, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.—1953 Conf., Henry Grady Hotel, Atlanta, Ga., Aug. 24,25. Conf. Chairman, C. Leroy Ray, Mechanical Supt., Winston-Salem (N. C.) *Journal* and *Sentinel;* Secy., Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Mfrs. and Suppliers Group, W. E. Neely, Sam'l Bingham's Son Mfg. Co., 274 Trinity Ave., S.W., Atlanta, Ga.

SNPA (Western Div.) Mechanical Conf.—Chairman, Palmer Black, Mechanical Supt., Amarillo (Tex.) *Globe-Times;* Secy., Walter Johnson, jr., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Supplymen's Committee, Karl E. Ponath, Mgr., Mergenthaler Linotype Co., 514 Browder St., Dallas 1, Tex.

A NEW HIGH

IN NEWSPAPER COLORWORK!

Sinclair and Carroll Standard Process Colors

- Bring out true process color values.
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Toning Colors

- Enable newspapers to reproduce every color of the rainbow.
- Reduce color matching time from days to minutes.

May We Send You Our Color Book?

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Technical Assoc. of the Graphic Arts — Pres., Richard F. Shaffer, Pratt Institute, 215 Ryerson St., Brooklyn 5, N. Y. Secy.-Treas., Paul J. Hartsuch, Printing Ink Div., Interchemical Corp., 161 W. Harrison St., Chicago 5.

Carnegie School

(Continued from Page 76)

separate building to house the new School.

With additional financial aid, the program of study would be modified to permit options relating to (1) Enterprise administration, (2) Production management, (3) Graphic Arts design, and (4) Technical processes with emphasis on underlying principles of engineering and science. Introduction of these options would require an enrollment somewhere between 250 and 300 students, approximately twice the current enrollment in the Department.

This increase in enrollment would, in turn, ease the acute shortage of printing graduates. Currently there are five job offers for every Carnegie printing graduate. While the demand by employers for graduates has been more insistent since 1945, at no time since the establishment of the Department has job placement been a problem. This is true even during the period of highly selective employment from 1929 to 1937.

Approximately 700 degrees have been awarded since the establishment of the Department 40 years ago. (The average number of degrees awarded each year during the past five years has been 36.) In addition, more than 2500 other students have received special training in various phases of the Graphic Arts in short term evening and summer courses.

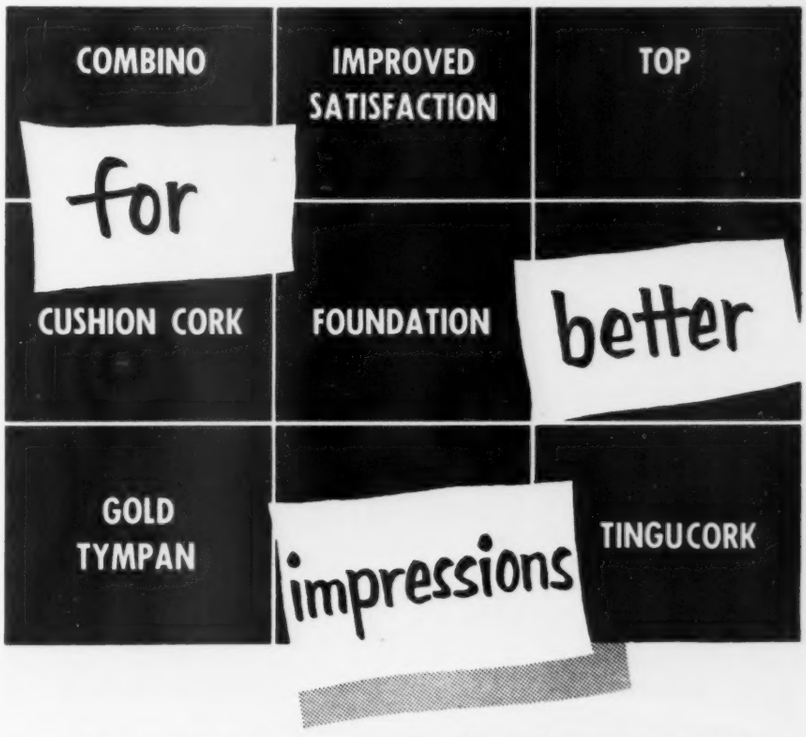
Because of the broad geographic area from which the Department draws its students, graduates can be found in positions in at least 40 states and 10 foreign countries. Many hold positions of executive and administrative responsibility, while others are doing specialized technical work in production planning and control, sales, advertising, estimating, and cost analysis. To date, at least 60 per cent are in executive and management positions, 16 per cent in sales or advertising activities, 20 per cent are connected with firms producing and distributing printing supplies (paper, ink, etc.) and equipment, and 4 per cent are Graphic Arts teachers.

Of the 48 printing management students who graduated from Carnegie last June 1952, discounting those who have gone into military service, 36 now have positions with printing plants, and periodical and book publishers. The average starting salary for these graduates is $350 a month.

It is the claim that graduates fresh out of Carnegie, are able to step into first jobs because they are trained to ultimately assume executive positions. Carnegie gives them the opportunity to gain experience in management planning, and production of printed materials. Through experience, they learn to make executive decisions; and such decisions cannot be made unless there is a framework of broad understanding concerning labor problems and production operations. Carnegie gives its young printers such a framework.

Carnegie asserts that technique courses in hand and machine composition, presswork, photolithography, operation analysis and the Graphic Arts processes enable each student to gain a working know-how of production operations. Setting type, locking up forms and operating machines is another requirement. Thus, each student can learn the capacities and capabilities of both men and machines by being a man at a machine; relating such knowledge to the planning of plant layouts and arranging of production flow, he is able to eliminate unnecessary waste in time, materials and energy. He may never, after leaving Carnegie, do the actual planning and designing of printing jobs, but each student is given this type of background so that he can effectively supervise the work of art directors, artists, designers, photographers, engravers and printing craftsmen.

Carnegie students work with equipment in what has been termed a million-dollar printing plant. The laboratories now situated in the Administration Hall, are equipped for instruction in typography, machine composition (Linotype,



More and more pressmen are using Tingue Press Packing to get better impressions at higher speeds. Yes, solids print solid, and every dot and serif stand up and out when your press cylinders are equipped with the right combination of Tingue packing.

NEW Tingue Tympan Paper Electronically Coated by Carborundum. .014 gauge, Roll Widths of 24″, 32″, 36″, 42″, 48″ or Cut Sheets. It assures the most perfect register and the lowest cost of production on runs in excess of 50,000.

TINGULOK • The simple, new "clipper lace" system for blanketing rotary newspaper presses. TINGULOK Clipper Lace Flaps and Blankets are made up complete with no preparation of blankets and drawsheets necessary.

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723 East Washington Boulevard, Los Angeles 21, Calif.....PRospect 6023
507 Bishop Street, N. W., Atlanta, Georgia.....ATwood 3864
1227 Wabash Avenue, Chicago 5, Ill.....HArrison 7-0083
1765 Carter Avenue, New York 57, N. Y.....CYpress 9-8800
Canadian Sales Agents: Ross Whitehead & Co., Ltd., Montreal, Canada

Intertype, and Monotype), litho platemaking, photooffset presswork and presswork for forms composed of type, line cuts, and halftones.

Within recent years these printing laboratories have been modernized and older machines have been replaced by newer models. A large amount of the laboratory equipment used by students has been made available through the generosity of machinery manufacturers.

Obviously, certain types of plant equipment cannot be made available for student use in the departmental laboratories. Therefore, students are given an opportunity to observe and study such equipment through a carefully planned series of plant inspection tours.

Stone Age

(**Continued from Page 102**)

This holds true for most bi-metallic plates.

Before we leave the new development of high speed web offset printing plates, the dry offset plate should be mentioned. This type of plate is used in many places on the continent. However, in most cases where it is used, the plates usually have very small open areas. The material to make the plate mostly has been magnesium.

Here in this country, Norman C. Bridwell and Bernard M. Sears of the Graphic Arts Corp. of Ohio, Inc., Toledo, O., have been doing a tremendous amount of work in the last few years. The last time we talked to them they were of the opinion that the success of this type of plate was still in the future. However, could a dry offset plate be developed successfully, then web offset will take hold.

Let us again repeat, for any offset plate, we should use the plate which will demand the least amount of water. In that manner scumming can be held down and emulsification can be nearly eliminated. That can be accomplished by having water receptive (WR) and ink receptive (IR) surfaces as far apart as possible on the ink receptive scales. Another thing before we determine which plate to use: Is the material readily obtainable and in good supply in the size, gauges, and acceptable tolerances? Remember the price of the base plates should be calculated as to the average number of times the base plate can be used. Assume we can use the base plate over 100 times, and the price of such base is $50. Then the price of the base plate per issue is only 50c plus the stripping cost and the replating price. Assuming the cost to strip the plate is $2 and $7 to replate the plate, the total cost of the base plate is $9.

We think it is finally agreed both here and in Europe that we now have a series of acceptable offset plates, superior to anything heretofore obtainable.

(To Be Continued)

THE
PROBLEM: To eliminate ridges, hidden scratches and unevenly finished engravers' plates
THE
SOLUTION: Machine Cut Finish

Machine-Cut Finish – the most exacting of finishes for fine engraving – is the result of special machinery and abrasives developed for the makers of ZOMO Electric ZINC, A-Z ALLOY, and ZOMAG.

This finish provides every sheet of these metals with a consistently flawless surface . . . measured to precision gauge in millionths of an inch . . . and just the right tooth to produce better engravings. Ask for ZOMO, A-Z, and ZOMAG when ordering metals.

ZOMO ELECTRIC ZINC • A-Z ELECTRIC ALLOY • ZOMAG

Polor-X Method

(**Continued from Page 98**)

renders greater detail and solids where needed.

The yellow, red and blue continuous tone negative and masked assemblies are photographed and processed as follows:

Using the negative as transparency copy, illuminated by direct flat lighting and with the diaphragm opening at the critical reading between F/16 and F/22, the positive film is exposed for 20 sec. During this 20 sec. period of exposure the halftone screen is $\frac{5}{16}$ in. out of contact, and away from the film, as in the case of a magenta contact screen.

After the 20 sec. exposure to the continuous tone image, the halftone screen is placed into actual contact with the positive film. Exposure is then continued for 5 min., without changing the diaphragm lens opening.

The positive is then developed in fresh high contrast developer at 68 deg. F. for $2\frac{1}{2}$ min.

The black positive is treated as above outlined except that the time of ex-

posure is changed to 1½ to 2 min. with the halftone screen in actual contact with the positive film. All other factors remain unaltered.

NOTE: All halftone projections are made to obtain complete or approximate dropouts, depending upon the nature of the copy. This is done to obtain maximum accuracy and to eliminate the opaqueing operation and to reduce considerably the production time required for manual color correction and manipulation.

Polor-X and the Color Transparency

The Polor-X method for obtaining color corrected separation negatives from color transparencies revealed by Dr. Stephens is as follows:

Equipment and Materials Required

(a)—A darkroom large enough to permit a projecting distance of at least 10 ft.
(b)—A simple color transparency projector.
(c)—A printing frame suitable to accommodate a Polor-X Panchromatic plate and one or more color transparencies to be reproduced.
(d)—A set of color filters.
(e)—A single small sized Kodachrome transparency which is used for focusing purposes only.
(f)—A piece of white cardboard or other material to serve as a projection or focusing screen.

Procedure

(1)—The cardboard focussing screen is placed in the printing frame. The frame is positioned vertically and horizontally squared to the small transparency projector.
(2)—At a distance of six to eight feet, the small transparency is projected onto the focusing screen or cardboard. The image is brought into sharp focus. This assures the correct distance for projecting the activating light rays.
(3)—The transparency is removed from the projector and is replaced with the proper color filter.
(4)—Focal distance between the projector and the printing frame remains constant and is not changed or altered.
(5)—After removing the focusing screen from the printing frame all lights are turned off. In absolute darkness a Polor-X Panchromatic plate is placed in the frame. Then the color transparency or transparencies are placed in contact with the plate emulsion. The printing frame is then closed and placed in the required position preparatory to making the exposure.
(6)—The light of the projector is turned on. The Polor-X plate and the color transparency copy is exposed to the action of the lateral light beam for the required exposure time.
(7)—With the exposure of one negative completed, the printing frame is opened, the exposed plate is removed and replaced with another for the next color exposure.
(8)—With the proper correcting light filter in place, the light of the projector is turned on and the next exposure is made.

The same procedures are followed for all separations until the complete set of separation negatives has been made.

Chemical processing of these continuous tone negatives is the same as that for separations made from reflected copy.

What Polor-X Will Do

With all operative factors in true balance of accuracy and precision, Polor-X will reproduce with high fidelity the detail, character and color appearing in the original copy.

It will make possible the reproduction of both line and halftone in one operation photographically.

It will eliminate the opaqueing operation on both the continuous tone and halftone images.

It will reduce the production time of manual color correction, reduction, intensification, etc.

It will expand the market demand for color reproduction because of the potential savings in production costs and the ultimate reduction in costs to the buyer of color printing.

What Polor-X Will Not Do

Polor-X will not perform miracles.

Polor-X will not automatically, or photographically correct any defects, or

Good Make-Ready gets—Good Results!

Good make-ready is easier and printing quality increases with Cromwell Special Prepared Tympan. It's smooth, always even. Has uniform texture. Gives you clean, sharp impressions with less work. You get a tight, strong packing that's tough—extra hard—with absolute resistance to oil and atmospheric changes. Cromwell Tympan is *unconditionally guaranteed.* You can depend on it.

for good PRINTING make-ready don't say "Tympan" say . . . CROMWELL!

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Chicago 32, Illinois

send this coupon now for free samples

Cromwell Paper Company
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Chicago 32, Illinois

Send working samples of Cromwell Special Tympan to me without charge or obligation.

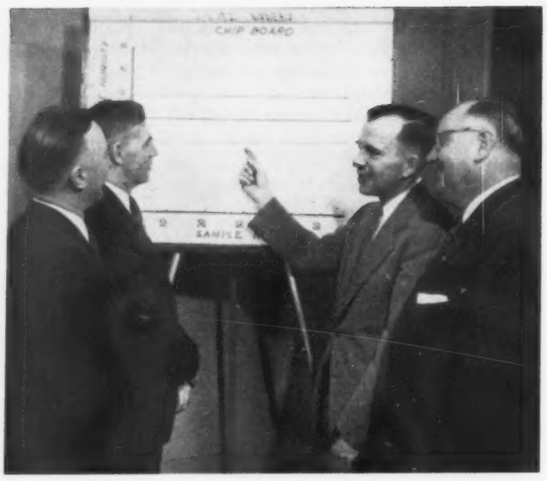
Name_____

Firm Address_____

City_____ Zone____ State____

Press Make_____ Top Sheet Size_____

(check)—Square Cut ☐ Clipped, scored ☐



Quality Control vs. Chance—Herb O. Somers, Head of Engineering and Quality Control, Western Printing and Lithographing Co., Racine, Wis., demonstrated the application of the mathematical laws of chance to the control of printing quality to the Milwaukee-Racine Club of Printing House Craftsmen at a meeting. He is shown here with a chart of the variations of relative humidity of skids of chipboard, exemplifying the kind of information available through quality control programs. Also in the picture, from left to right, are: Robert Konsin, Western Printing and Lithographing Co. and President of the Milwaukee - Racine Club; Charles Leo, Trade Press, Typographers, Milwaukee, and Past Pres. of the Club; Somers; and Gordon J. Holmquist, President Intl. Assoc. of Printing House Craftsmen.

Quality control often uncovers causes of waste and spoilage, according to Somers, that are not generally recognized. He cited a study of waste of white roll stock, which demonstrated that the greatest causes of waste were scoop end-cuts and roll handling by a grab truck, rather than the commonly supposed causes of broken webs, press adjustment and end roll waste.

In a similar study of a selected number of offset presses, it was discovered that off-register and off-color were the dominant causes of poor quality, rather than the commonly heard complaints of blind plates and dry ink.

errors appearing in the original copy.

Polor-X will not make any color changes from the original art, to satisfy the whims of the client or customer.

NOTE: It can safely be said that more than 90 per cent of all colored art, provided or supplied as copy, is subject to requested changes and deviations from the original. As a consequence,

Polor-X will not eliminate, as a trade or craft, the work of the correctionist, retoucher or dot etcher.

New Polor-X Developments

INKS—It has been disclosed by Dr. Stephens that highly concentrated color inks will soon be made available to the industry. The colors will be chromatically pure. Yellow will be free of red or blue; the red ink will be free of yellow, and the blue to contain no yellow or red. These inks to be manufactured by I.P.I., are tentatively called Polor-X Balanced Process Ink.

MACHINE—A machine currently is being built for Polor-X Corporation. This machine is to be named the Polor-X Push Button Separation Machine. It is claimed this machine will be capable of making direct color corrected continuous tone or halftone negatives or positives without the aid of a camera. It has been stated further, that this machine will make projected enlargements up to 12 ft. in height.

Polor-X Photographic Plates

The Polor-X No. 1 Panchromatic and the Polor-X No. 2 Perfector plates are manufactured by G. Cramer Dry Plate Co., exclusively for Polor-X Corporation.

Both types of Polor-X plates are available in the following sizes, 11 in. by 14 in.; 14 in. by 17 in.; 16 in. by 20 in. and 20 in. by 24 in.

Prices of the plates compare favorably with plates of other types and makes at the same sizes, but are subject to change without notice. All prices are subject to increase by the amount of sales taxes levied by federal, state or local law.

Closing Notes

Polor-X procedural instructions are based upon results obtained under controlled laboratory conditions. In plants where these same controls do not exist or prevail, such plants must establish their own standards to conform to conditions peculiar to their own establishments.

Warnecke Process

(Continued from Page 96)

Another feature pointed out is that the set of color proofs can be sent into the pressroom which will enable the pressman to more nearly obtain facsimile color results.

If necessary, the engraver's operations of burnishing and local etching may be performed in the regular manner on the set of plates, although it is the ultimate purpose of the Warnecke process to eliminate so far as possible these operations.

All of the controls normally employed by the photoengraver still are at his command when using the process.

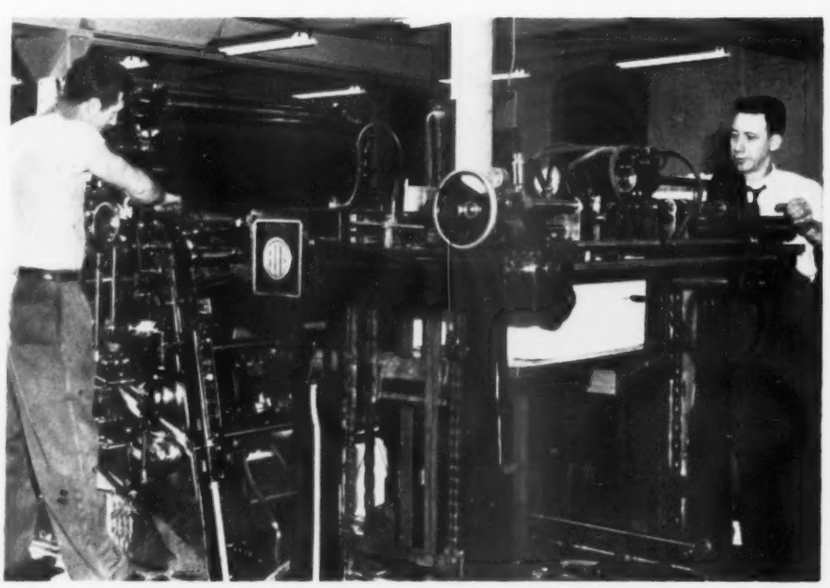
LTF Forum

(Continued from Page 79)

is recommended during plate making. While the Cronak post-treatment works well with bichromates and cellulose gum, no bichromates work well with the phosphate post-treatment.

A solution of aluminum sulfate; potassium nitrate; ammonium dihydrogen phosphate and water is used to clear the invisible film of residual coating left on the non-printing areas of the plate after developing. This solution is used in the phosphate post-treatment.

Following application of the solution, the plate is etched with the regular white etch (no bichromates) and then gummed if desired. Surfaces thus prepared will have the desensitizing films produced by



Adds Sixth ATF Press—*View of new press in pressroom of The Kroger Co., Cincinnati, O. It's an ATF-Mann single color offset unit. Kroeger pressmen are (left) Robert Marchant and John Henkel. In addition, Kroger operates two ATF Chief offset presses and three Kelly letterpresses.*

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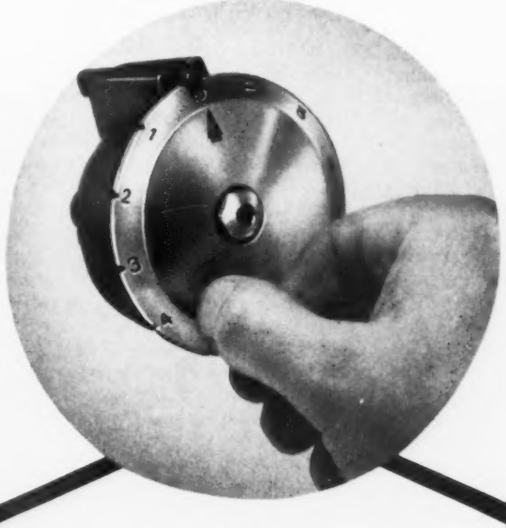

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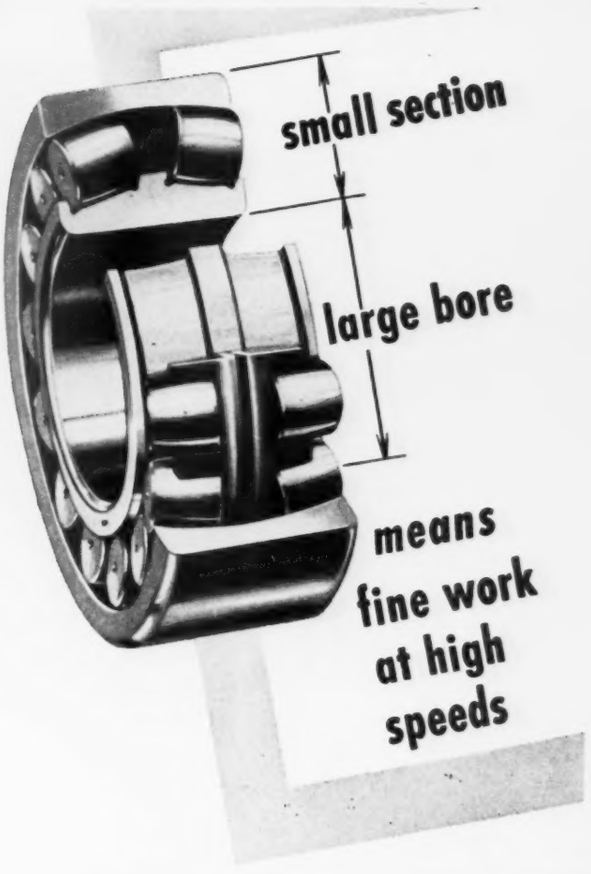

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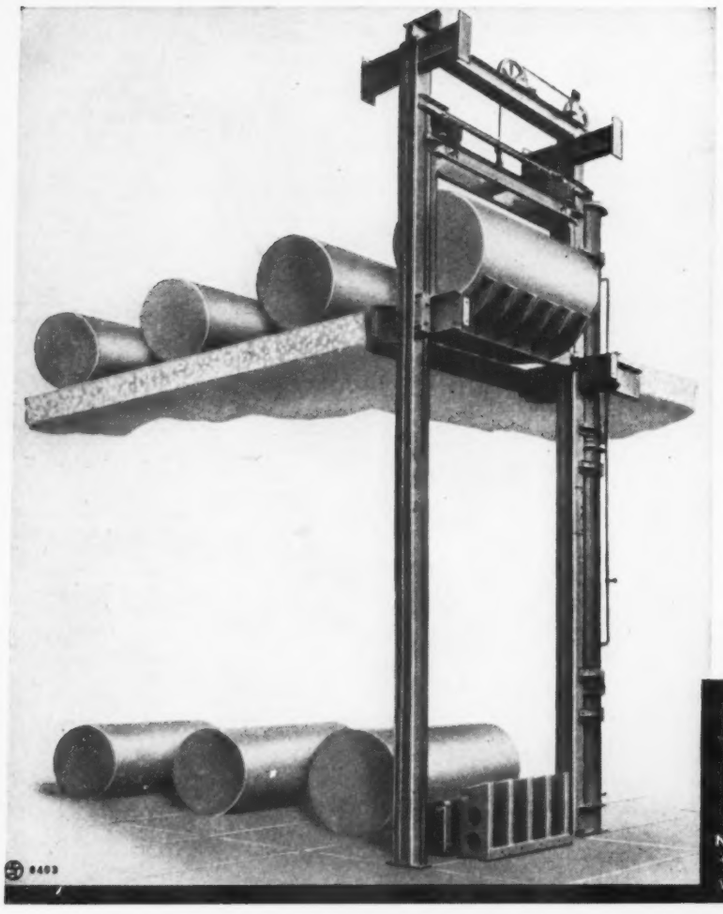

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WHEN YOU THINK OF MATERIALS HANDLING THINK OF GIFFORD-WOOD

the etching action remain on the plate longer.

LTF Aluminum-Copper Plate

There are three types of bi-metallic plates: The copper-chromium combination where copper is the image and chromium is plated over the copper; the copper-stainless steel, like the Aller plate with stainless steel having copper plated upon it; and the aluminum-copper plate with aluminum as the base metal holding the copper image.

The aluminum-copper plate designed to be used with a negative, has the copper for the image area, the aluminum, after the copper has been removed from it, acting as the non-image area. This plate, recently developed by LTF in conjunction with the Aluminum Company of America, is supplied with the copper coating, it now being possible to get them up to the 77 in. size.

Before coating, the plate is cleaned with sulfuric acid and pumice powder to remove any grease that may be present on the copper. The regular plate-coating solution is used with a lower Baumé reading (between 12 and 13.5 deg.). With a sensitivity guide in use, exposure will be found to be about 1½ times that of the regular deep-etch, development to step 8 being found most successful. The copper is removed in non-work areas with a ferric nitrate solution of about 42 deg. Baumé. Removing the hardened stencil with hot water and a scrubbing brush follows, and then the image area is sensitized with diluted developer and rubbed up with ink and a solution of phosphoric acid and water. Etching the plate with the usual aluminum plate etch of cellulose gum and phosphoric and then gumming it with gum arabic solution finishes the plate.

Careful adjustments are necessary here, too, in running this plate on the press, tolerances being very fine.

Deep-etch Plates on Ungrained Zinc

Degreasing the smooth ungrained sheet of zinc is most important. This is done with fine pumice powder applied with water, rubbed over the surface until it takes on a velvety appearance. Following this, the plate receives the Cronak treatment for about ½ min. washed with a wad of cotton to remove the brown color, and then coated.

Any standard deep-etch coating is acceptable but it must be cut 50-50 with water, a thin coating being essential. Exposure time is about the same as for regular deep-etch plates and so is the development. Use of the sensitivity guide is advocated, with development to step 9 being customary.

Addition of about 10 grams of cupric chloride to the deep-etching solution is suggested to get an image that will blacken in the large areas. Cleaning with alcohol follows, a few simple precautions being stressed. Chipping of the stencil may take place at this stage and it was found that drying the alcohol between application produced this chipping. Therefore, the alcohol is not permitted to dry until the final wash.

Staging can be done following the deep-etching with the heavy coating solution or prior to the deep-etching by the use of lacquers or shellac.

Use of the non-blinding lacquers for the image base is a must, for the old type of lacquers may cause plate failure. The very heavy type of developing ink is used, that coming in tubes for bimetallic plates being best. The plate is then powdered with a combination soapstone and resin mixture, the stencil removed by soaking in hot water, and a brush used to clear the plate.

The residual stencil may be removed with the developing solution diluted, 1 part to 3 parts water. The phosphate post-treatment is recommended with the plate then etched with the cellulose gum etch. Two applications of this white etch and the plate is gummed with gum arabic.

Because this plate has no grain, there is an accurate setting of rollers, dampeners and careful packing is necessary. Use of a hard blanket is best. A fountain solution containing cellulose gum with zinc nitrate and phosphoric acid is imperative with the phosphate post-treated plates; or, any white etch that includes no bichromate may be used.

Finest quality work is produced from these plates, there being no breakup of the dot structure. Once these plates have been used, the results of the grained plate

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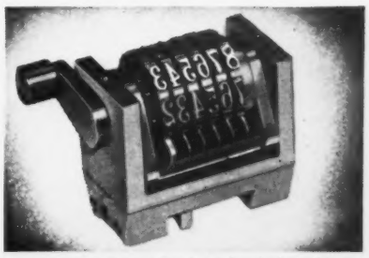

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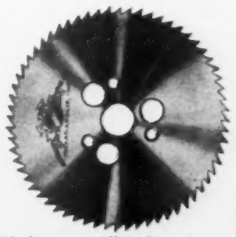

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look mediocre by contrast. The greatest stress was placed on good working conditions combined with the best of materials, this being a prime requisite in the production of these plates.

Smooth deep-etch plates on aluminum are even easier to make than zinc, it was reported.

The New Contact Lamp

We also saw and heard about the LTF newly developed contact lamp. The light source is a G.E. No. 1489 Miniature Lamp, which must be frosted at the tip. A heavy transformer is used in the line. A filter can be placed close to the bulb or in contact with the sensitive material. The lamp provides a small, even and constant light source without a pattern.

To Prevent Stripping

Stripping of steel ink rollers on the offset press usually incurs a loss of time and a loss of quality. The following remedy recommended by LTF has been shop tested and found practical.

The press is first washed up with the three-solution washup, developed in cooperation with the Knox Soap Co.; the first solution removing the ink; the second solution used being the solvent for the gum that may have hardened on the rollers; while the third carries off the second with its contents.

The rollers must be washed clean or the coppering solution will take unevenly. Following the third solution and while the rollers are still wet, the plating solution is applied. The solution is made up as follows: The chemicals are mixed in the order listed, the solution being kept well stoppered when not in use.

Useful Developments

(Continued from Page 72)

out the old threads. Remove the starting tap from the hole frequently and clean off old threads adhering to it. The head of a small nail can be used to remove loose dirt and threads. Then finish up with the bottoming tap. Finally, again clean out the hole.

The most difficult part of the mouthpiece replacement operation has now been completed. Next in order, if the mouthpiece is to be returned to the crucible, is to remove burrs and oxides from the counterbored screw seats and screw holes with the special counterbore supplied with the kit. Old or new mouthpiece, it is advisable to apply all new holding screws to the mouthpiece.

Countersinking Jets

Another aid to routine maintenance and good slug production is that we countersink the jets from the rear of the mouthpiece. This is done with a 60 deg. (inc. angle) countersink to a depth of approx. 3/16 in. We feel that metal will flow through the jets more freely. In addition, it minimizes necessity for broaching mouthpiece jets when they have been reduced in diameter because of oxide accumulations.

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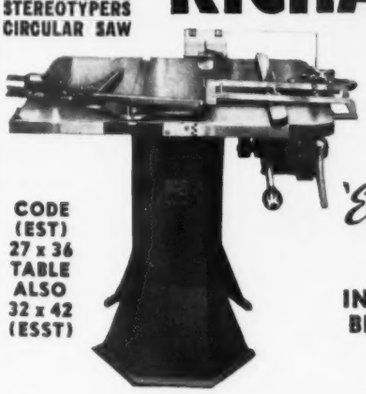

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CONGRATULATIONS

In any new association, it is usually desirable to advance successively at annual intervals the elective officers with the possible exception in some cases of the offices of secretary and treasurer. However, the Research and Engineering Council is to be congratulated upon retainment of all the present officers and directors for a second term. This action occurred at the May R&E Council meeting in St. Paul. It seemed to be the consensus of the membership in general that the re-election is in the best interests of the Council. The Council's usefulness to the Graphic Arts industry is commencing to burgeon. Its affairs need the guidance of experienced hands. *Printing Equipment Engineer* feels that under the guidance of President Edward J. Triebe and his cabinet, the Council will more rapidly orient its objectives. This is not to say that as the result of retaining the officers and directors for a second term that the Council will immediately attain its major objectives. Attainment will come gradually and only with understanding guidance by the officers and directors together with understanding patience of the membership.

R&E Council

(Continued from Page 78)

ing on perfect binding of books and magazines, said that there has been a growing demand for a flat-opening magazine to enhance the value of double spreads, gutter bleeds, etc. The committee felt that if the problem could be solved for magazines it would almost automatically solve a similar problem of perfect binding for books. To date, he said, the only effective answer has been to Smythe sew, but this has raised problems for the publisher because it is not a fast process and is more expensive than side wire stitching.

Unsuccessful have been the efforts toward the use of methods and adhesives to satisfactorily bind machine coated papers, Monaco said. This is due to different weights and kinds of paper used.

Someone asked if it is possible to do a good job of Perfect binding if the work is limited to one type of stock. Monaco pointed out that it sometimes works — sometimes doesn't. He cited the case of McCall Corporation, Dayton, O., who Perfect bind *Reader's Digest* with considerable success but has trouble in binding *Selectiones*, a coated paper job. The Hanover plant of Doubleday has had the same experience, he said.

Monaco expects the coordinating committee to work on type of usage and temperature range.

Lillian Stemp commented that the C. A. Owen Co., Chicago, has been doing Perfect binding for 33 years and has expressed a willingness to cooperate in solving the Perfect binding problem.

Snyder Reports for Cantor

Bernard Snyder, American Typesetting Corp., Chicago, reporting on the work of the Committee on Composition, reviewed the work on improvement in composing room equipment using hot metal, in the absence of Sol Cantor, Chairman of that committee.

It was decided, he said, to bring together a group of competent technical men who could sit down with the engineering staffs of Linotype and Intertype and discuss in detail the mechanical aspects of the changes desired. This was done in New York, March 26 and 27, this year, with separate meetings with representatives of the two companies. The committee identified 12 specific items on which it desired assistance from the manufacturers. Basic improvements suggested were:

(1) To improve the assembling mechanism in order to avoid breaking down of mat sidewalls; (2) Improve casting mechanisms to get a better face on slug line; (3) Improve casting mechanism to get a more solid slug; (4) Hold mold disk more rigidly while back knife is operating for better type-high control; (5) Improve knife block for more accurate parallel trim; (6) Hold closer tolerances and have

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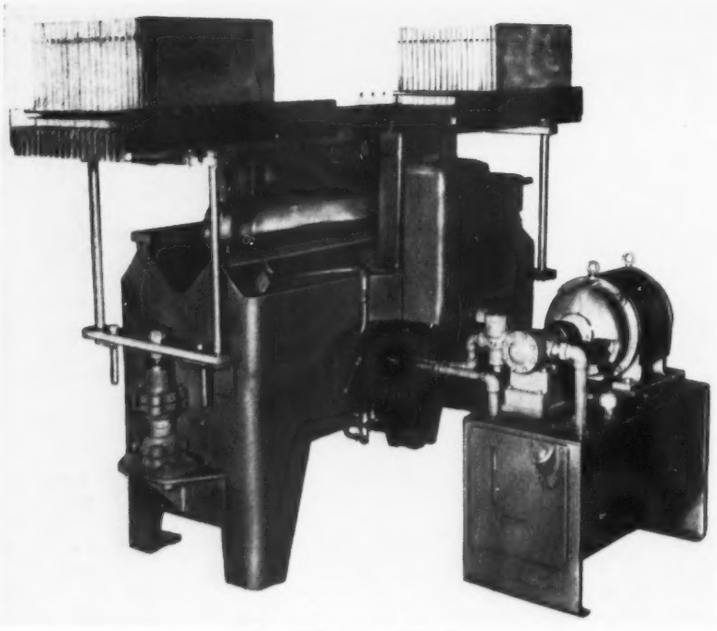

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better inspection in manufacture of matrices and other replacement parts.

Other items for investigation were recommended at the two meetings.

One suggestion discussed, Mr. Snyder said, was developing a machine for milling slugs bodywise rather than to try to get perfect accuracy from the trimming knives on line-casting machines.

The Composing Room Operation project was also reported on by Mr. Snyder. Chairman of this committee is Carl Borklund, Mt. Morris, Ill., who was not present. Snyder said the committee had prepared for its consideration a research project with one of the leading universities. However, at a meeting of R&EC officers in January, in Washington, D. C., it was felt that some preliminary steps should precede the research Project No. 16 about which the committee felt a conference of composing room foremen and superintendents was called for to identify items in the composing room which should be improved.

Mr. Snyder listed three other composing room projects: (1) Acetate Proofs, with Frank Sherman, ITCA Executive Secretary, preparing manuscript for publication by the Council working with a committee of which Arthur S. Overbay, jr., Indianapolis, Ind., is Chairman; (2) Improvements of Phototypesetting Equipment, under Chairman William Braden, of Thos. P. Henry Co., Detroit; (3) Elimination of String Tying of Type, Chairman, Joseph Schwartz.

String Tying Elimination

In the absence of Mr. Schwartz, Ralph Tufts, Cornelius Printing Co., Indianapolis, Ind., a member of his committee, reported that the aim of the committee is to find a means or device for holding a type page from the time it is made up through all stages of lockup, presswork and storage or killing. He expressed doubt of ever reaching the complete objective.

String tying is extremely expensive in man hours, Mr. Tufts said, and many efforts have been made to eliminate it, some partially successful. His committee, he said, is approaching the problem by canvassing the various methods used and will issue a questionnaire.

It was brought out in the discussion period that the use of pressure sensitive tape has been considered. Tufts said he had no knowledge of any work done with it. One of the executives remarked he had been using 3M pressure sensitive tape for about two years on slug cast work.

Mr. Tufts remarked, in relation to Mr. Snyder's committee problem of type face quality, that his company has begun a series of photographic studies of face problems on the Intertype. He said these studies seem to prove that the quality problem arises from two sources: Machine inaccuracies, including temperatures, pressures and adjustments; and faulty matrices, adding that face faults followed certain matrices for some unknown reason. Snyder revealed that Intertype and Linotype have agreed to a matrix tolerance of plus or minus 0.001 in.

The problem of face flaws, Mr. Triebe commented, had arisen before. These have been called to the attention of Mergenthaler Linotype Co. and Intertype Corporation with the result that they are considering two kinds of matrices (at different prices), one ordinary, the other subjected to an extra careful inspection.

Solvents and Cleaners Report

William Baumrucker, substituting for C. M. (Larry) Flint, reported on Solvents and Cleaners. With the objective of tabulating the characteristics of commonly used cleaners and solvents, the following tests have been set up: Flash point, fire point, boiling range, effects of solvents on rubber, composition and plastic materials, corrosion effect of solvents on metal, density, composition classification, evaporation rate, solubility of oils in solvents, floatability of pigments in solvents, effect of metal on solvent residue, odor classification.

Ultimate objective, he said, is to establish ideal characteristics for cleaners and solvents and to make an effort toward standardization. Information obtained would be given to the National Safety Council to further its work.

Questions revealed that the work on solvents and cleaners has thus far not touched the rotogravure field.

Signal Devices and Controls

Since Joseph Chanko, Chairman of the committee on Standardization of Signaling Devices and Controls, could not be present, P. J. Bernard of the H. Wolf Book Mfg. Co., reported. The study was inaugurated, Bernard said, because of the fact that diversification of equipment design and practice in stopping, starting, inching and running presses presents a considerable hazard to workers. The committee has adopted as its scope of work safety codes for signaling devices and controls for Graphic Arts equipment.

Assisting in the work, Mr. Bernard said, are Russell Haywood of the National Printing Equipment Assoc., who will work

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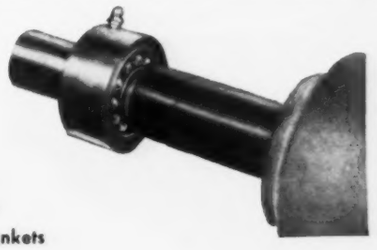

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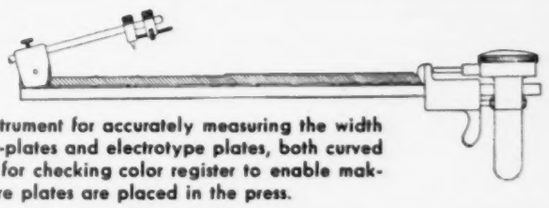

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FUTURE UTILITY ASSURED

The industry-wide Research and Engineering Council is sponsored by management. Its membership consists of companies whose management executives realize the need for coordination of Graphic Arts research, plant engineering and creation of equipment and/or processes which are not now existent. A segment of its membership consists of men familiar with engineering, chemistry, physics and so on, as well as a liberal number of trade association executives.

Representing many management executives at Council meetings are a number of plant managers, superintendents and foremen. It is to be noted that the men closest to actual plant or departmental operation are being given an opportunity, under management's encouragement, to participate and to attend such events as the No. 2 Makeready Meeting to be held in October in Cincinnati. *Printing Equipment Engineer* is glad to note this trend in an important organization. This policy will assure future growth of the Council. Lee Augustine is Chairman of the No. 2 Makeready meeting.

on problems of terminology; Milton Priban of Cline Electric Mfg. Co., who will prepare recommendations for electrical design and color code—also H. R. Behr of the Cline Electric Mfg. Co.; John A. McCluskey, Printing Pressmen's and Assistant Union, preparing recommendations on signaling; Lillian Stemp, author of a new Safety Manual; G. W. Heumann of General Electric Co., representing the National Electrical Mfrs. Assoc., preparing recommendations for mechanical design of signaling and control devices. He added that all presses will be considered, whether the printing is done on paper, cloth or metal.

Hahn Reports on Preventive Maintenance

William Hahn of McCall Corporation, Dayton, O., reporting on Preventive Maintenance, said the committee recognized at the start that progress in this field is dependent on management being convinced of the need for preventive maintenance since laxity at the top will be transmitted to employees. Further recognized needs, he said, are for: (1) Exchange of information among personnel in plants; (2) Developing improved inspection procedures; (3) Closer relationship with equipment manufacurers.

The committee has suggested, he said, a permanent committee within the Council and an advisory committee of manufacturers and a technical conference on preventive maintenance to which manufacturers would be invited.

Dr. Walker Reports on Ink Research Committee

Dr. William G. Walker of Lehigh University, Chairman of the Ink Research Committee, discussed the committee activities on ink drying. One of the first activities, he said, was preparation of a glossary of ink terms which was expanded into a *Dictionary of Graphic Arts Terms*, being developed with John McLean as editor. The prime objective in printing inks, Dr. Walker said, is an ink that will stay in good condition indefinitely on the press, yet dry instantly when it touches paper—an aim which can never be fully realized.

Ink drying is not one problem, but many, Dr. Walker said, since the requirements vary greatly in newspaper, publication, and letterpress and offset shops. In the committee report will be attempted the definition of problems and the needs and to discuss some of the radically different methods and mechanism of ink drying that have been suggested from time to time.

Speed of drying was discussed at some length as the result of a question from the floor as to what is being done about drying up to 1000 f.pm. or more. It was brought out that *Time* and *Life* have mentioned that they have a new system of drying that depends on a careful balance of solvents, a balance that is disturbed by contact with paper and gives rapid drying. It was also brought out that cold set ink will do an extremely fast drying job, and that some work has been done with it, but Dr. Walker remarked there is no press that will adequately handle it. The statement was immediately challenged from the floor with the observation that there is a four-color offset press running in an Elizabeth (N. J.) laboratory at 1200+ft. a min. The type of ink used in this laboratory run was not revealed but the answer was, "If you can get I.P.I to tell you, you are a better man than I am."

Four R&E Council members are shown examining a 3M Photo Offset Plate which was demonstrated by company representatives during visit of Council members to plant of Minnesota Mining & Mfg. Co., St. Paul, Minn., May 15.

Publications Promotion Report

Bernard Snyder, reporting on publications promotion, recalled that the Council took over the publications which were previously part of the PIA research series and also developed Leaflet 23 and a group pricing plan to stimulate sales of the publications. Many thousands of the leaflets have been distributed throughout the industry and trade papers gave excellent cooperation, some reproducing Leaflet 23 in its entirety. Sales of Council publications since last January have totaled $3,216. Main objective is to get the publications circulated and in use in the industry with profit secondary.

President Triebe remarked that Mr. Snyder had modestly refrained from mentioning that he did the layout work and composition on Leaflet 23.

William Gove, Minnesota Mining & Mfg. Co. Engineer, uses chair for a prop during his talk before Research and Engineering Council, St. Paul, Minn., May 15. Though it appears the microphone has been placed on the chair, 'tain't so.

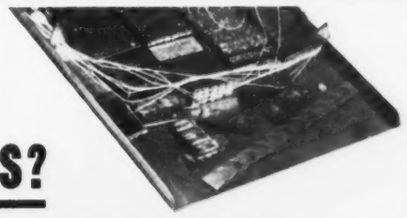
John Davis, Chairman of the Publications committee, said the committee has established Council reporting of research projects on a two-year basis with supplements at six month intervals. Arrangements have been made to make available technical abstracts through an agreement with the English Printing and Allied Trades Research Assoc. at a cost of $12.50 per year and the American Graphic Arts Index for $2.50 per year, providing 250 subscriptions are obtained.

Research Progress at Battelle

J. Homer Winkler gave a research progress report. Currently, research work is being done at Battelle Institute, Columbus, O., on four group-sponsored projects.

For Printing Plates Research, Inc., work is being aimed at improved methods of making duplicate letterpress plates. This is related to electrotype production and to plastic and rubber plates.

Work for Photoengravers Research,



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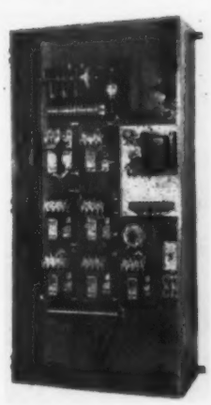

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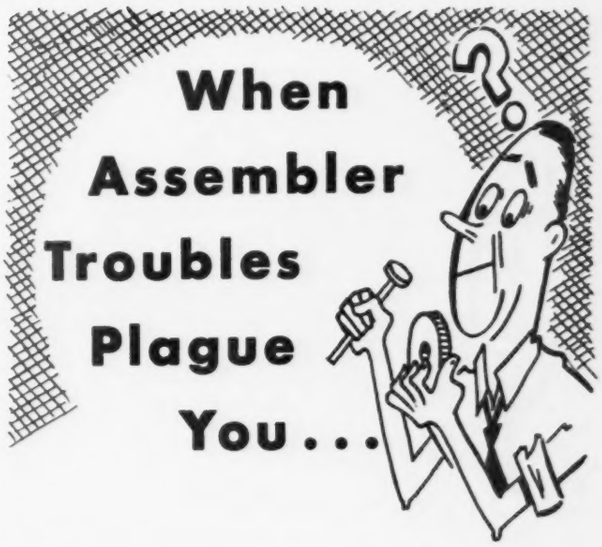

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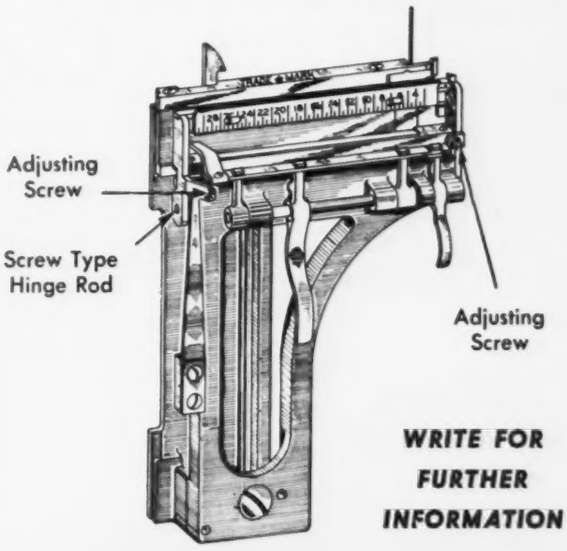

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Inc., centers in finding a material better than wood for mounting engravings, and substantial progress has been made. Work is also continuing on etching improvements to minimize color loss.

Research for Gravure Research, Inc., includes work on electroplating the copper shell and shows promise of reducing or eliminating grinding to provide a smooth surface. Work is continuing on improved procedures for handling carbon tissue.

Work on ways of drying ink rapidly is being done, continued Winkler, for the Engraved Stationery Manufacturers Research Institute, Inc, as well as on other phases of the process.

Winkler reported research progress for development of a mechanized process for gilt edging with construction of a production machine scheduled to begin soon.

In the field of photography, Winkler reported that the Eastman Kodak High-Speed camera and the Wollensak Optical Co. Fastax camera are now the only super high speed cameras commercially available. The former, he said, takes 16 mm. pictures at speeds up to 3000 frames per sec. and the Fastax, using 8 mm., can run as high as 15,000 per sec. Battelle, he said, has built a camera which operates up to 100,000 frames per sec.

One of the interesting uses of the Battelle high speed Intransport camera, Winkler said, has been in the study of fuel knock in piston engines. Other subjects studied by this means include the action of electrical breaker points, the operation of mechanical calculators, fracture of metal on impact, spray drying of solutions or emulsions, cavitation of liquids, detonation of explosives and ink transfer.

In Xerography, Winkler said, several new applications have been developed in the last year, with two to be announced soon through the Haloid Co., licensee of the process.

The commercial use of Xerography for preparing paper offset plates has increased tremendously as a result of technological advances and improvements due to field experience, Mr. Winkler said, listing as some of the paper plate work prepared by Xerography, engineering drawings, training manuals, interoffice correspondence, bulletins, notices and a host of work involved in office systems. He added that Haloid has now placed on the market a new Xerox camera which can enlarge copy 150% and reduce 50%.

Dr. Walker Reports Lehigh Research

Dr. William Walker described the research setup at Lehigh University in his report on work being carried on for the Graphic Arts, particularly that being done on inks for the Printing Ink Institute under contract. Work of the Institute is aided, he said, by several other closely related projects.

Dr. Walker noted that, first of all, his research is interested in the establishment of standard test methods for the measurement of quantities in which he is interested in the printing industry. These test methods concern inks and prints as well as raw materials used in the Graphic Arts.

Fundamental studies include the properties of ink which control how they behave on the press and on paper, particularly the laws of the flow systems of solid particles suspended in liquids as applied to ink. The exact nature of ink tack is also under study, he said.

Robert Rossell Reports for U. S. Engineers Research

An engineers research report given by Robert Rossell of the Engineers Research of the U. S. Army at Ft. Belvoir, Va., disclosed that much of the equipment and many of the methods developed there for Army use can be applied directly to industrial and commercial work.

One of the projects, Mr. Rossell said, is an improved light source for the photolithographic process, a project in which Battelle has assisted. While the engineers' research is primarily concerned with lithography because it is simple and versatile, he said, the work is not limited to any one process because of the variety of maps produced.

Mr. Rossell expressed gratification at the amount of work being done by the Council on specifications because of the assistance such work may give in standardizing and simplifying armed services procedures. He disclosed that his research is at present interested in Xerography with Battelle doing work on that for his laboratory.

He described a new dampening system for lithography which was invented by William G. Mullin and developed by the A. B. Dick Co., under a project sponsored by the Ft. Belvoir laboratories.

He explained it thus: One of the critical features is conventional cloth roller dampening. In practice, the molecules are generally distributed well enough to provide reasonably good copy, but not well enough to repel ink from themselves so that the roller soon becomes fouled up with ink and unusable for dampening.

The new system provides dampening without physical contact between dampener and plate; equilibrium is reached

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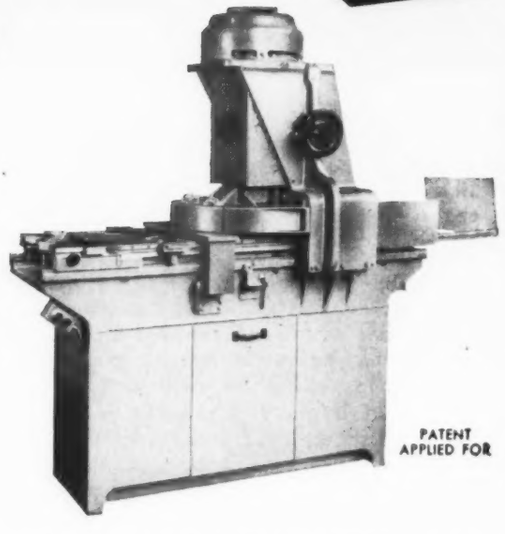

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instantaneously and continuously maintained without adjustment and equilibrium can be changed with a single revolution of the plate cylinder. The effuser is simply a wide air nozzle constantly operating over the entire cylinder width. Water is transferred to the plate in a film of 0.007 in. This film is carried upward by the plate and has a vacuum type collector to remove the excess. The effuser interposes a wall of air which prevents much of the water from passing beyond the collector.

The ink form rollers are at the top and operate in a very dry condition as compared to the conventional water fountain system. So little water remains that the problem of ink emulsification potentially disappears. The thin, uniform film of water on the plate is sufficient to prevent scumming but so little when it reaches the blanket as to be negligible.

Rossell pointed out that the system is not yet a finished product and that work is continuing on it on a 22½ in. by 30 in. press at his laboratories.

Rossell also disclosed that for the armed services a new type of relief map is being printed on a conventional offset press from a regular plate and on a Vinyl sheet. This is made possible by use of an ink which is compatible with the Vinyl. After it is printed it is molded under vacuum pressure.

GPO Research Reported by Kantrowitz

Morris Kantrowitz, Technical Director, described the research work being done by the Government Printing Office, noting first that considerable attention is being given to fluorescent printing inks for printing confidential, classified material and to non-scratch or rub-proof inks for halftone work.

He also reported work on the detergents and roller washes and performance tests on the 1-2-3 system of washing offset rollers as well as glycerin substitutes for press rollers and flexible glues.

In the search for a glycerin substitute, Kantrowitz said, a partial answer has been found in sorbitol for composition press rollers by using 30% sorbitol and 70% glycerin. Research on another material is also giving promising results, he said.

RIT Reported by Morrow

Herbert Morrow, Graphic Arts Research Div., Rochester Institute of Technology, reported on some of the projects being undertaken.

In the relief plate laboratory, some progress has been made in the formulation of an enamel, resulting in a harder, less penetrable photosensitive resist. A project for developing a frothing powder, scum-restrainer for nitric acid etching is being planned. Work is also proceeding on a no-pack stereotype mat strong enough to stand casting pressure and sufficiently compressible to give good relief.

Rotational viscometer studies, continued Morrow, are being undertaken to evaluate the two methods now generally used to determine rheological properties of printing inks through the use of the Interchemical instrument. The results obtained thus far are:

1) Within the range where temperature effect is not markedly noticeable, the rapid loop method always shows greater plastic viscosity value than the equilibrium method; (2) Statistically, there is no difference in precision between the two, but the loop method has been discarded because of temperature effects; (3) Recent experiments revealed that the generally accepted equation to compute the coefficient of thixotrophic breakdown cannot cover the wide range of rate involved; (4)A new equation has been introduced for this computation, based on the definition that thixotrophy is a decrease in viscosity which is measured by a rapid down-curve from equilibrium points.

A project has been initiated to explore the possibilities and limitations of three-color process work, continued Morrow. The program is set up to produce transparencies with a minimum of operations. One highlight and one contrast mask are used. Continuous tone separations and positives are made from the masked transparency. Halftone negatives are made with a contact screen and printed from zinc or Ektalith plates. Since good inks are vital to the three-color process printing, a third project of ink testing for optical properties, gloss, trapping, and balance to produce gray, has been initiated.

Other developments reported by Morrow included a separation printer for production of contact separations from transparencies—a contact printer using pin registration and incorporating automatic filter change. Filters are balanced so that the same exposure is required for all three separations. Reduction or enlargement is accomplished at halftone stage. Also developed is an ink distribution instrument to move across a printed tint bar to determine is evenness and ink film thickness.

According to Morrow, RIT has worked

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to minimize or eliminate linting and piling when running news stock on a web offset press. Tests involving coated blankets, improved inks and precision settings have produced good results, he noted. Other offset projects undertaken are as follows: A study to minimize press variables; tests on platemaking solutions, polymetallic plates and fountain solutions; evaluation of masking techniques, three-color process, tone reproduction studies and ink and paper tests.

Future projects, he said, will include pre-heating of sheet and roll stock; trials and tests of electric dryer employing optical reflection of radiant energy; hydraulic clamping plate cylinder for presensitized plates; dry offset plates; in distribution indicator; electronic measurement of cylinder and roller pressures and an optical system for improved register.

A further description of the RIT Research Center appears elsewhere in this issue of *Printing Equipment Engineer*.

Maull Reports on Paper Research

William Maull, Meade Corporation, presented an abstract of the report on the Committee on Coordination of Research for the American Paper and Pulp Assoc. Maull disclosed that the committee has been circulating to universities and colleges a report covering major objectives of research, placing them with the heads of the chemistry and engineering departments with the hope that this would result in more student work.

Erikson Reports for TAGA

G. L. (Tiny) Erikson, Vice Pres., Braden-Sutphin Ink Co., pointed out that the Technical Assoc. of the Graphic Arts reports only on the progress of research.

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He presented a brief summary of TAGA's latest technical papers.

Gravure Technical Association

J. Homer Winkler, reporting for the Gravure Technical Assoc., said the technical committee of the Association was reorganized this year to obtain greater participation from technical men. Fifty plant representatives were appointed to sub-committees to work on projects aimed at standardization and technological improvement of steps involved in gravure.

Winkler also gave the reports for American Society for Testing Materials, Pulp and Paper Research Institute of Canada, Printing and Allied Trades Federation of Australia and Swedish Graphic Arts Research Laboratory.

Baumrucker Reports on Photon

William Baumrucker, jr., reported for the Graphic Arts Research Foundation with respect to the Photon phototypesetting machine. He said that the composition of a recently published book indicated that with an inexperienced operator there were three-fourths of an error per thousand characters with at least half being due to the operator's inexperience.

For short test periods, the report said, the operator was timed at roughly 12,000 character per hr. There has not been time for extensive production tests on actual production models. Such tests will be run off within the next few weeks, by which time the first 10 production models will have been completed by Photon, Inc., licensee of Graphic Arts Foundation.

The report disclosed that the Foundation is now engaged in the development of page makeup and positioning equipment for a number of different purposes, and varying composing problems, with study models being built. This phase of study is designed to solve the correction and layout problems of the photographic type of composition, that is, the exact positioning of pieces of film.

A question was raised as to whether anyone present had ever seen film produced by the machine, there being an implied doubt as to actual production. This was answered by Elliott Donnelley, who stated he had been watching the machine on the average of once a month for three years. He has seen the production of film in galley form.

The problem of page makeup, he said, has been approached by Eastman Kodak Co., who, he said, has produced a camera which will do just about what the Foundation is seeking in that respect. This camera, costing about $40 thousand, has been made up for Dun and Bradstreet.

Donnelley commented that he does not think the Photon is going to be a cure-all for everything. It is a practical idea which, however, will require an electronics engineer to keep it going. He added that his company is going to "play around" with it and expects to use it most in offset work, since to use it on other work will require development of a quick way to make a plate.

Donnelley said, in answer to a question, that nothing has been done about a correction machine as yet, but that Eastman executives seem confident they can devise a machine which will scrape off a line, resensitize it and rephotograph it.

Flint's Report Presented by Baumrucker

Highlights of Baumrucker's report for C. M. Flint, Research Director of Ameri-

COUNCIL MEMBERSHIP

Chairman of the Membership Committee, William Baumrucker, jr., Production Mgr., Washington (D. C.) *Times-Herald*, presented an encouraging report to the St. Paul R&EC meeting. His report showed that the memberships are divided as follows:

Association	61
Company	221
Honorary	5
Individual	8
Trade Press	21
Total	316

As individuals (some companies support more than one active executive) there are 518 persons.

Elliott Donnelley, Vice President, remarked that Association members are not required to pay dues, yet members of the 61 associations have contributed $7900 for the year. Company members have contributed $22,600, and 7 individuals have paid $395. J. Homer Winkler, reporting for Treasurer Schwartz, indicated that a balance of $6379 remains at the close of the year.

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can Newspaper Publishers Assoc., included information that a new stereo mat has been developed which will require no hand packing and is being used on two or three newspapers experimentally. There is expectation that this mat will be available for general use before the end of the year.

There was also the report that results seem fairly near, particularly in line work, on the high speed etching program on which both the Dow Chemical Co. and the ANPA Research Dept. have been working. Good strides have also been made in research on dry offset, Baumrucker added, with one book job having been produced by the method.

Considerable progress was reported on fluid pressure molding with two methods under study. In one, molding is done by actual solid pressure on the surface of the mat, forcing it down into the type and halftones. Then steam or other fluid pressure is blown down through the upper platen, which is porous, to depress the mat in the non-printing surfaces. The other modification is to put a sheet of wet paper between the upper side of the mat and the upper platen of the hydraulic press which is heated so that when the press is closed the resulting steam pressure forces the mat down into the non-printing areas.

The report also went into a study of a web tension control system designed by the ANPA, whereby newsprint rolls or rolls for any web fed press are unrolled under virtually no tension—5 lbs. total in the web. The unwinding mechanism is driven from the press and the roll passed over a floating roller with any jerking in the web removed by a vacuum pan. Then the web passes over a suction pan with a depression in the top so that the vacuum sucks the web down to the surface of the pan and creates proper printing tension.

Other developments reported a butt weld device to butt weld on the ends of wire tying machines so that a new roll of wire can be welded to the expiring roll, thus eliminating the necessity of a shut-down or wastage of time in changing rolls.

LTF Activities Reported by Griswold

Final report of the Conference was made by Wade Griswold, Executive Director, Lithographic Technical Foundation. A summary of the more important items follows:

Deep-etch Plates on Ungrained Zinc: The ability to make these plates successfully is the result of LTF's work on surface treatments, improved desensitization and the new non-binding lacquer. With these developments the lithographer has a new medium with which to produce high quality work for runs of normal length without the expense of bi-metal plates.

New Surface Treatment for Zinc: Considerable work has been done on new post-treatments for zinc that do not contain bichromates. Post-Cronak has done an excellent job, but it can cause dermatitis. A new phosphate post-treatment, originally developed in Sweden, was described. When properly used with cellulose gum etches, it is even superior to post-Cronak.

Albumin Lacquers: Experience with the new non-blinding deep-etch lacquers was reviewed. Work on a new lacquer for albumin was reported. Plant test indications are that we will soon have a new lacquer for albumin plates, also one that will show the same resistance to blinding as do the new non-blinding lacquers for deep-etch.

LTF Copper-aluminum Bi-metal Plates: Griswold's report included results of plant tests during the year. These tests indicate that this plate is perhaps the simplest to handle, and the least expensive to use. It was also reported that Printing Developments, Inc., has agreed to undertake manufacture of plates for further plant testing. Printing Developments, Inc., has already undertaken to set up equipment to manufacture this plate in all sizes up to 77 in.

Chemical Copper Plating on Steel and Aluminum: Work on a new treatment to plate copper chemically on the steel rollers of a press during the wash-up was reported. Plant tests have indicated that this is a very effective answer to the problem of stripping. Work on plating copper chemically on the image areas of aluminum deep-etch plates was also reported.

LTF Pick Tester: A report was made and a demonstration given of the new production model of the LTF pick tester made by the W. M. Welch Mfg. Co.

Light for Contact Printing: The new light for contact printing positives and negatives utilizing special low voltage light sources was described. Two companies are interested in manufacturing this new unit. (A third company has expressed interest in manufacturing and one company has already announced that its first lot is ready for delivery.)

Fountain Solution Tests: Results of successful tests in five plants with the new non-bichromate fountain solutions containing cellulose gum were reported. Efforts in this direction may eventually lead to eliminating the scourge of chromium dermatitis in the industry.

S&V Elects New Officers

A special meeting of the Board of Directors of Sinclair & Valentine Co. was held recently to fill the vacancies created by the death of Anthony J. Math. Matt J. Leckey, who started with S&V in 1936, was elected President. Other officers of the company are now as follows: Humphrey H. Desmond, Vice Pres. and Treasurer; Arthur J. Mahnken, Vice Pres. in Charge of Sales; Howard J. Soriano, Vice Pres. and Secretary; George J. Warmbold, Vice Pres.; and Edgar E. Wikoff, Vice Pres.

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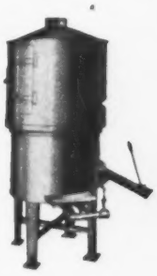

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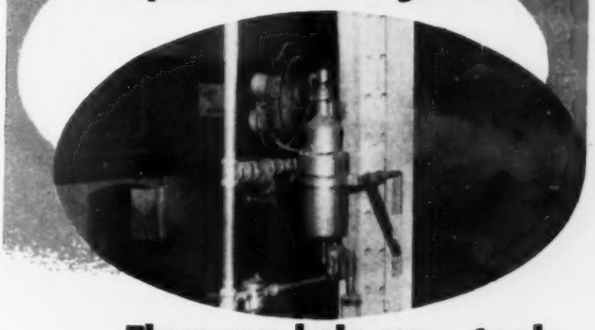

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Huber Move in St. Louis

The Southern Sales Office of J. M. Huber Corp.'s Ink Div. has been moved to 4030 Chauteau Ave., St. Louis, Mo., announces Louis A. Lara, General Sales Mgr. of the Division. E. Guy Myover, Southern District Sales Mgr., will have offices at the new address. The Huber ink service station and plant will remain at 150 N. Front St., East St. Louis, Ill., and will be under the supervision of Herbert Spraker. Laboratory facilities will be maintained in both St. Louis and East St. Louis.

Color Aptitude Test

A means of evaluating color aptitude of employees whose jobs require them to make rapid and accurate judgments of color matching can be accomplished with the recent Color Aptitude Test Set available through the Federation of Paint and Varnish Production Clubs. The test is described in the 1953 edition of *Color Aptitude Test* which includes reasons for such a testing program. Among these is that it provides a check on all employees engaged in color work to uncover changes in color aptitude. The test consists of having a person make 40 color matches. The Color Aptitude Test Committee, which prepared the test, also advocates testing old employees, both color workers and non-color workers, with a view to shifting individuals to jobs for which they are best suited. The test set includes an easel with fixed color chips, chip dispenser with corresponding loose chips, 100 scoring sheets, scoring chart and carrying case. Cost of complete set is $125. It may be ordered from C. Homer Flynn, Executive Secy., Federation of Paint and Varnish Production Clubs, 121 S. Broad St., Philadelphia 7, Pa.

Fairchild Service Center

Fairchild Camera and Instrument Corp. has announced the opening of a Scan-A-Graver service center in Auburn, N. Y., under the direction of John P. Hernan, Engineer. At the same time, John H. Clough, President of Fairchild, revealed that the 1000th contract for a Scan-A-Graver has been signed by the Fort Dodge (Ia.) *Messenger-Chronicle.*

Equipment & Supplies

(Continued from Page 42)

and the device can be inflated in a few seconds. The Aero-Shaft is available for use with 3 in. i.d. standard cores in web widths of from 10 in. to 80 in. For widths up to 40 in., a single set of spring steel ribs is used, and widths over 40 in. a double set with a center collar is used. Special shaft ends such as key ways, square ends, brake driving pins, etc., are available. Should you desire additional information, please mention PEE No. 637 in your request.

Eye Sweep — General Scientific Equipment Co. has announced an instrument for use in industrial first aid in removing particles from the eye. Called the G-S Eye Sweep, one end is fitted with a magnet for removing steel splinters, while the other is fitted with a flexible loop for removing cinders, dust and other particles. Sterilization of the instrument will not diminish the magnetic qualities nor effect the loop, states the sponsor. Please ask for PEE No. 587 when requesting more details.

G-E Gear Motors

THE function, design and application of gear motors are described in a publication issued by General Electric Co. Designated as GEA-1437H, the 16 page, two-color information guide includes descriptions of the standard types of G.E. Tri-Clad gear motors with ratings from 1/6 up to 200 h.p. Cut-away illus-

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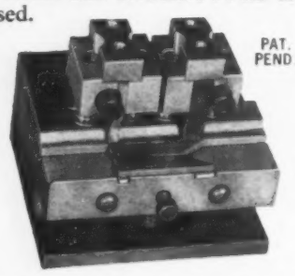

The Align-A-Mat

This precision-built tool will correct worn lugs on mats so they will distribute properly. The same operation will also restore alignment. When sorting up fonts, old mats will align with new ones.

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trations show the relative position of the parts. Adaptability to low-speed jobs and adjustable-speed drives are explained along with a description of gear motor maintenance. The electrical types and characteristics as well as special mechanical features of gear motors also are given. A table in which are listed more than 200 gear motors applications contains information on how to select the proper motor depending on use, load classification and length of daily operation. Copies may be obtained by mentioning PEE No. 640 in your request.

Electronic Parts Counter

UNITRONICS, Incorporated, announces an Electric Parts Counter which can be pre-set to a desired batch total from 1 to 1999 pieces to count bundles, boxes, parts, etc., coming off a conveyor or feeder. The unit can also be set to perform such operations as stopping the conveyor, switching a gate, or replacing a box each time the total is reached. Accuracy is claimed by Unitronics for its counter operating at 40,000

units per sec. Included on the panel is a reset type electrical register which indicates the number of batches, whether dozens, grosses or thousands, counted per day or per week. Photocell and magnetic pickups are available for counting any article coming off any conveyor or feeder at any speed, states sponsor. Please refer to PEE No. 647 when writing for additional data.

Sprag-Type Clutch Bulletin — Shown above is the cover of the recently issued six page, two-color bulletin describing three standard models of the Formsprag Clutch. Issued by Formsprag Company, the clutches are designed for over-running, indexing and backstopping. Applications include use on printing presses. The bulletin may be obtained by mentioning PEE No. 592 in your request.

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Standard Rectifiers — Standard unit rectifiers, from 3 kw. to 50 kw., designed to convert a.c. to d.c., have been announced by American Rectifier Corp. According to the sponsor, the units require no warm-up period. The rectifiers are available in 125 or 230 v. d.c., output and either fixed or variable voltage, d.c. units to accommodate any a.c. voltage or frequency input. Also available are standard input voltages at 60 cy. Please refer to PEE No. 581 if more information is desired.

(*Continued on Page 132*)

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Equipment & Supplies

(Continued from Page 130)

Care of Ideal Rollers

IDEAL ROLLER & MFG. CO. has issued a bulletin containing information on care of Masterlith (vulcanized oil) and Lithocraft (synthetic rubber) offset press rollers. Also revealed in the bulletin is the way of telling whether the roller is made of vulcanized oil or synthetic rubber material. In addition, Ideal mentions a method for finding the cost per impression from any of its rollers. Other technical literature issued by Ideal is a four page bulletin in which is described the firm's Synthox typographic rollers. Copies of both bulletins are available by requesting PEE No. 622.

Type and Plate Marker

EASTERN Newspaper Supply, Inc. announces a new product developed by a research laboratory. The product, Ad-Marker, provides a simple method for indentifying live or dated ad type composition through color marking. It is described as a non-pigmented liquid which can be brushed or sprayed on all type matter and plates, and it is rapid drying. Sponsor states it will not deteriorate these surfaces, and is said to have no effect on reproduction quality. Ad-Marker is packed in quart and gallon containers, and is available in red, green or blue colors. Full information may be obtained by mentioning PEE No. 654 in your request.

Butt Splicer Bulletin

CHAMPLAIN CO., Inc., offers a bulletin in which is illustrated and described the Champlain Butt Splicer. The splicer is designed for use with roll-fed equipment, splicing the web as it travels horizontally through the machine at speeds up to 300 f.p.m. Besides listing design features, sponsor also describes operation of the splicer in the bulletin. Specifications are given for the 14, 20, 26 and 36 in. models. Other information includes the electrical and compressed air requirements and the type of drive and roll stand used. A description of the Champlain unit appeared in the May 1953 issue of *Printing Equipment Engineer*. Please refer to PEE No. 633 when writing for a copy of this bulletin.

Screen Pattern for Type Faces—Face-O-Type, a machine for mechanically applying a screen pattern on the printing face of most any slug or type cast material has been announced by Capital Tool & Mfg. Co. Through a face knurling tool, the Face-O-Type machine will reproduce mechanically an engraved type of screen pattern up to 144 pts. and on 84 pt. borders, 72 picas in length. In the case of a Ludlow slug, the shank of the slug is inserted between two supporting bars on a movable carriage. A hand crank is turned to cause the carriage to move under the circular screening tool to indent the screen pattern in the printing face at an even depth without distortion. Two standard screen patterns are furnished with the machine. Either one can be applied easily. Machine is 18 in. long, by 6 in. wide and weighs approx. 60 lbs. Further information can be secured by mentioning PEE No. 648 in your request.

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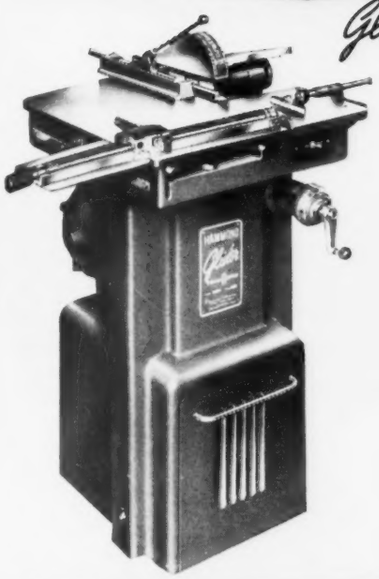
Hammond of KALAMAZOO

TRIM O SAWS



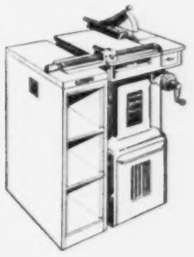
Glider TRIM O SAW
MODEL G-4
"The Saw with the Ball Bearing Table"

Mercury TRIM O SAW
MODEL M-9
"The Saw with the Ball Bearing Gauge"

STRIP MATERIAL CABINET

THE MODEL No. 32

The Model No. 32 Strip Material Cabinet is designed and made for use with past and present Hammond TrimOsaws. The 32 compartments will accommodate 1800 lbs. of full length rule and border material.



The Model No. 320 Strip Material Cabinet without dividers for bulk storage, illustrated with the Glider TrimOsaw.

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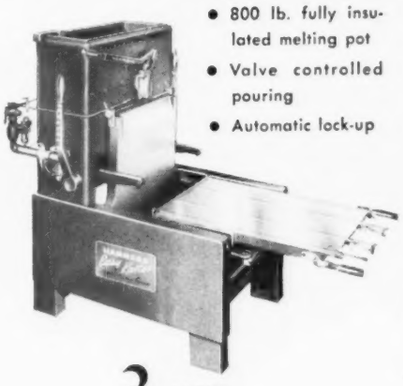
FULL PAGE *EasyKaster "8"*

MODEL EK-8P



- 800 lb. fully insulated melting pot
- Valve controlled pouring
- Automatic lock-up

3 SIZES

MODEL EK-5, 5 col. x 20"
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- Available with automatic metal temperature control.
- Gas or Electric operation.

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Scorcher

MODEL T23-30

- New grilled cover design gives fast moisture elimination.
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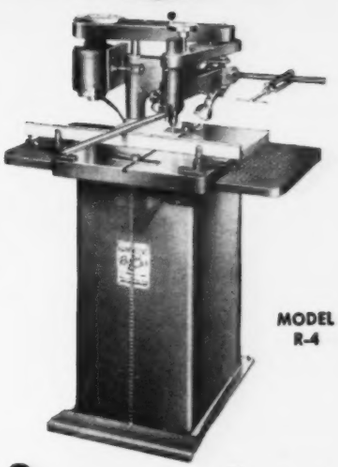
- Variable thermostat provides desired scorching temperature.

ROUTERS



MODEL R-4

2 HAMMOND *Routers*

Model R-4 Radial Router (illustrated)

Model RP-12 RouterPlaner

- Constant speed, regular type motor.
- Belted drive to ball bearing spindle.
- Full-Page capacity.

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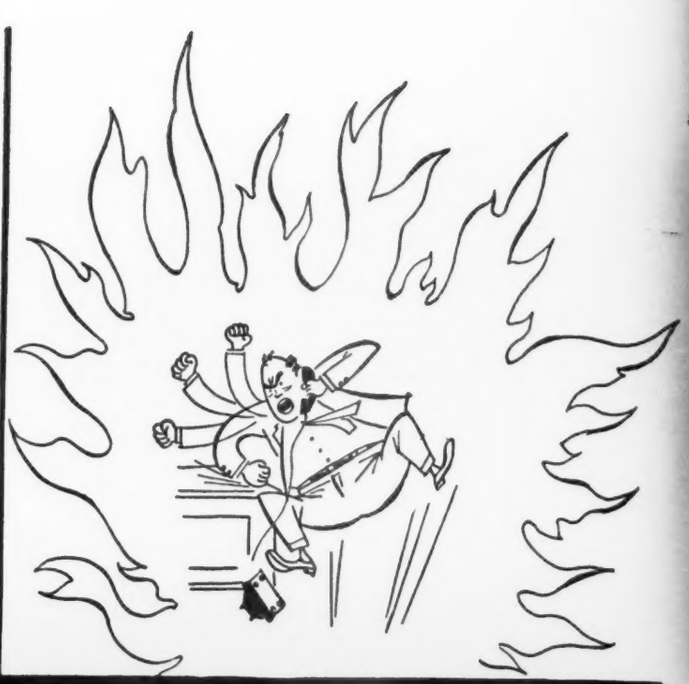

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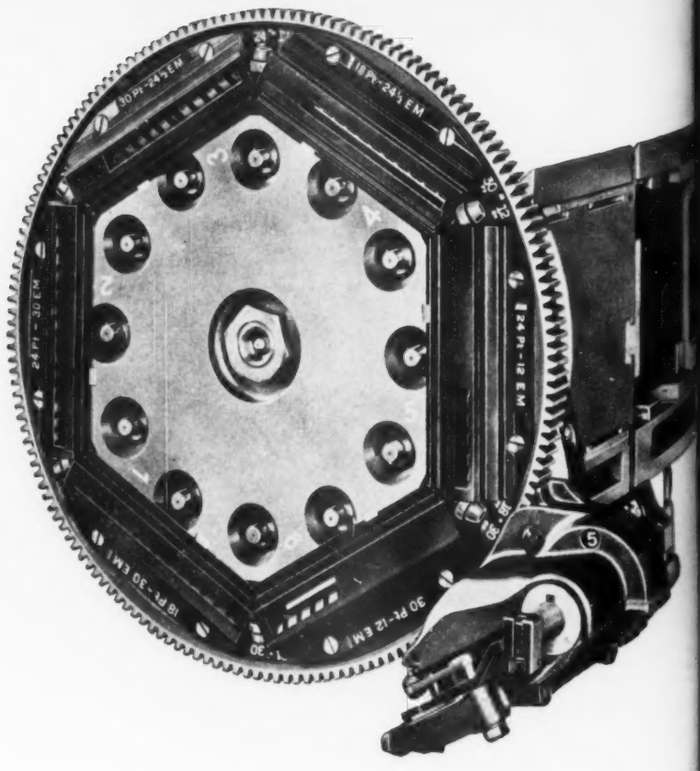

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